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The American Farmer.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." *Virg.*

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VOL. X.—No. 11.]

NOVEMBER, 1881.

[NEW SERIES.]

Soil Restoration.

Messrs. Editors American Farmer:

A question of absorbing interest to every progressive farmer is, How can the fertility of our soil be economically increased or restored to its original productiveness, where there is not a sufficient supply furnished by our stables and barnyards? This question formed the basis of a paper read at the October meeting of the Woodlawn Agricultural Society of Fairfax County, Va., by Dr. S. A. H. McKim, of Washington, D. C., President of the Potomac Fruit Growers' Association. Dr. McKim is a practical restorer of healthfulness and vigor to the soil, as well as an eminent practitioner in the medical profession.

Essay.

How shall we restore the fertility of our soils? is the question which is discussed by the agricultural press, and which deeply interests the owners and tillers of the fields.

That the soil has lost its fertility and no longer responds generously to the labors of the husbandman, and has ceased to "bring forth fruit abundantly," is implied in the question of restoration of fertility, but is more pointedly evidenced by the fact that when the time and labor necessarily required to prepare the ground and put in the seed have a cash value placed on them, and to these add the cash value of reaping and threshing, as well as the time and labor of transporting to a market, we find that many of our farm products are raised at a loss.

I think it will be conceded that a farmer's time has as much a cash value as has that of the mechanic or skilled artisan. In the foregoing the interest on the capital invested in the land has not been considered, nor the taxes, the former of which, at least, I think should be added to the cost of the crop. In all other means of livelihood or investments these necessary expenses would be included in estimating "profit and loss," and no other investment would long be pursued which did not only include them, but bring a profit beyond them.

But to turn to the question of restoring the fertility of our soils, let us ask, first, How has

the fertility of our soils been removed? The answer is, "By overcropping and not restoring the essentials which have been removed by tillage." This answer is generally accepted by the chemist and the agriculturist as full and complete, but I desire to go a step further and assign another cause not less efficient in the reduction of the productiveness of our fields.

When we look at the now thin soil of our fields and contrast it with the deep and rich soil that once covered them, and recall the abundant harvest that once gladdened the heart and lined the pocket of the tiller, should we not ask where *is* our soil? That it no longer is in our fields is too manifest for argument; but where is it? When we turn to our hillsides and ask where is the soil that once caused them to respond to the labor of the husbandman, we turn to the levels that lie at their base and say the rains have washed it there, and the levels have been enriched at the expense of our hillsides; and are we not correct? Have we not seen the water-courses after the showers that have carried the soil to the levels, and have we not sought for and applied the means to bring to the minimum this gradual washing? When we turn our eyes to the beautiful rivers that are almost now in view, and see that each year the waters are lessening in depth and the shallows are rapidly increasing, can we not, without any stretch of the imagination, answer the question, Where are our soils? by merely pointing to the shallowing streams that are so fast losing their carrying abilities by lacking sufficient depth of water to float the shipping that once carried our produce to a market? Does not the question of How shall we restore the fertility of our soils? involve one, scarcely secondary in importance, of How shall we *retain* our soils?

The agricultural chemist has told us how to restore our soils, and we gratefully admit our indebtedness to him, but yet must grant that all he has said is not wise, and is sometimes otherwise. He gives us the general principles, which each must take and apply to his own case, not literally as enunciated by the formula, but as his own judgment shall teach him is to be modified by soil and climate. We cannot

ignore the wisdom of the chemist nor reject the labors of the manipulator of fertilizers, but caution, wisdom, knowledge and experience must aid our judgment. In nothing that appertains to the improvement of our fields is judgment and wisdom more required than in the application of commercial fertilizers, and the great sales that are annually made is only exceeded by, too often, the greater sale of the purchaser. More intelligence in the use of them, and more freedom in the interchange of views and experience as to results obtained at our meetings, would enlarge our views, and perhaps our pocketbooks, indirectly if not directly. To the barnyards and stables we must look for the means of restoring our soils, or rather to keep up their fertility, but really to another source for their restoration.

What constituted the richness of our soils originally? For centuries the foliage of the trees and the grasses had fallen and decayed on the ground, enriching the land and giving a deep vegetable mold. No portion was removed, for the leaves annually in falling restored to the earth all and more than the trees had taken for their growth, and the grasses in falling and decaying restored more than they had taken from the ground, and the roots of the grasses had so matted and interlaced in the earth that no wash carried the soil to the rivers, and no plow disturbed and loosened the earth, enabling the rains to transfer it to the adjacent streams.

If to vegetable matters which had fallen, decayed and accumulated for years on the lands is due their fertility, then the question seems to simplify itself into this: What is the best and cheapest method of restoring vegetable matter to the soil? The usefulness of clover aided by plaster cannot be questioned, but if the chief point is to restore the vegetable matter, we may well ask if clover is the best in point of economy. If the clover was fed on land—a questionable method—or turned under when in proper state for that purpose, and the temptation to cut and utilize it as feed be foregone, even then, with the high price of seed, it is doubtful if true economy would prompt its use. If we seek a cheap and yet an efficient green manurial plant, we shall find rye to meet the want and to supply the article. Seeded in the fall, with or without a fertilizer to give it a start, it will make good growth, supply a fair protection to the soil during the winter, and in the spring, when it has attained a sufficient height, will provide a rich crop to turn under. It may then be followed by one or two crops of buckwheat, to be also turned under, after which, in the fall, the land may be seeded to rye again, and in the spring clover may be sown and the rye allowed to ripen, and the grain and straw will make a handsome return aside from the improved condition of the land, and the coming clover set. Thus we shall have by the rootlets diminished the tendency to wash with winter rains and summer showers, but also have made an advance on the way to restoring our soils and increasing their fertility. Should the land be but indifferently prepared for the seed, and should drought and cold overtake it, still rye will withstand these

adverse conditions and still make a very fair crop, and the chinchbug will not molest it.

As a *cheap* manurial plant, one that can be seeded under unfavorable conditions when wheat would fail, one that is hardy in habits and vigorous in growth, rye cannot be too highly prized, and when allowed to ripen and the grain and straw marketed, when raised as a farm crop it will not only pay a good interest on the time, labor and other expenses in the aggregate better than wheat, but under the continued and judicious growing of it the land can be more steadily improved than, perhaps, in the growth of any other of the small grains.

But not wishing to attempt an exhaustive article, I will say that the restoration of the fertility of our soils and the reduction of the wash to the least amount must be largely due to the restoring to the fields vegetable mold, and on the portions most liable to be washed keep in sod, that the roots may hold the earth, as is practiced on an embankment of earthworks by the Government in the sodding of the slopes.

No one article, probably, can be more economically used or more strongly recommended than rye to fulfil the indications suggested in this paper.

In the discussion which followed the reading of the paper, Capt. W. H. Snowden took occasion to denounce, with considerable severity, the almost universal use of what he denominated "pocket fertilizers" as ruinous to any one who persisted in their use any great length of time. He advocated the careful composting of every available refuse product of the farm, to be used in connection with the contents of the barnyard in returning to the soil the plant-food taken off by the crops. If this is not sufficient, then sow rye and clover to turn under. Agriculture is a complete repetition process: we must return to the soil in some form what we take from it, or it will not continue to yield a profitable return for labor bestowed. The time has come when no slipshod system of farming can succeed, but everything must be utilized to the best advantage.

Col. Chase said that Dr. McKim had told us in his essay how to restore the fertility of the soil, but had not given us the method of retaining the soil as he had seen it practiced on hill-side plantations in Alabama, which he thought was ahead of our system in preventing the soil from washing its valuable properties into the creeks and rivers, by plowing around the hill-sides and leaving a terrace of sod at suitable distances to catch and hold the wash from the cultivated ground.

Col. Curtis said he would give some facts in regard to the cultivation of the soil that were not his theories, but well-established principles in agricultural science, one of which was that the proper condition of the soil was of more consequence than the quality.

Dr. Howland said the two must go together, proper condition of the soil and the essential elements of plant-food in the soil, as it was impossible to get something from nothing, no matter how well the soil was prepared.

E. E. Mason remarked that well-established practices as well as theories had been set at

defiance, and the usual result from a certain course pursued completely reversed this summer. One of his neighbors—John Ballenger—whose land is very much richer than his own, failed entirely in his corn crop, while his own crop was as good as ordinary. The corn was planted at the same time, on the same kind of native soil. He asked if anyone could explain the unusual result, as it was well known that Mr. Ballenger was one of our best and most successful farmers.

One of the scientific gentlemen replied: "Ask me some easier question."

Another gentleman accounted for the failure in this way: Mr. Ballenger's land is rich in all the elements of plant-food, and, as all his neighbors can testify, is prompt in working his crops as soon as they need it. His corn probably came up a little sooner on rich land than it would upon poor land, and would as certainly keep ahead all the season, shooting out the tassels of the stalk and the silk of the ear some days, if not weeks, in advance of that upon poorer soil with consequently later cultivation. In this is probably the secret of his failure. The unexampled dry, hot weather this summer struck the pollen on the tassels of the cornstalk at such a time as to dry it up, causing it to fall when there was no wind to waft it to the silk on the ear of corn. Without this commingling of the pollen of the tassel on the silk of the ear there can be no corn-seed perfected. Many fields that gave promise of a good field of corn had been blasted just as Mr. Ballenger's was, and probably from the same cause, while others a little later in their development received the benefit of showers and a breeze to carry the propagating properties from stalk to stalk.

This meeting of the Club was held at the residence of a member, Col. William H. Chase, in Washington, D. C.

N. W. PIERSON, *Secretary.*

Clover.

The Deer Creek Farmers' Club, at their regular monthly meeting, held on Saturday, October 1st 1881, at the residence of Mr. William Munnikhuysen, Thomas' Run, discussed the interesting and important subject of "Clover." We are indebted for our report to the *Ægis*:

Mr. Munnikhuysen said that the majority of farmers pay too little attention to clover. It is not only a money crop, but the best and cheapest fertilizer to improve land. Land cannot be made rich with commercial fertilizers, without vegetable matter, and enough stable manure cannot be procured to cover the fields. Farmers can raise clover, however. There is no better feed than clover. There is no animal on the farm which will not eat it. Even hogs, turkeys and chickens are glad to get it during winter, and it is the best feed for sheep. He would rather have it than timothy for horses, provided it is properly cured and saved. It is no more likely to give horses the heaves than timothy is. Horses are very fond of it and will eat too much of it. The

great trouble about feeding hay to horses is that too much of it is generally given.

With a good set and proper treatment clover will stand profitably for three years. It is a mistake to pasture young clover after wheat too closely. Stock should not be put on it before the 1st of October. Such a season as this he would pasture very little the first season.

It is an excellent pasture, especially for hogs. Cattle will do well on it, but thrive better on mixed grasses. He would not advise cutting the second crop for hay, but it pays to cut it for seed.

R. John Rogers has a high opinion of the value of good clover hay as a feed for horses. They will, if allowed to do so, eat twice as much as of any other hay. This causes thirst and they may drink to excess and get the heaves. One objection to cutting seed is that it looks like robbing the land. We plant clover to improve the land, and yet not only take off the second crop, but also the seed. To improve the land it should be pastured and not cut. Clover will stand about two years, unless mixed with other grasses. He had cut four crops from a field of mixed clover and timothy. Clover stands the drought better than timothy. In order to avoid the risk of insects in crops, he would plow clover the second year, but the longer it stands the more it will improve the land. He never saw a field of clover plowed and put down in any crop that did not make a good yield. It should be plowed in fall or early spring. For wheat it should be plowed when in full bloom, and for corn it will be of more benefit if turned under when 3 or 4 inches high. You should not plant clover to the exclusion of timothy, but farmers have neglected clover too much.

R. Harris Archer said clover had claimed more attention from agricultural writers than any other subject, and every one is in favor of it. Yet if he were asked which he would rather do without for five years, clover or timothy, he would prefer to do without the clover. Timothy should not be sowed on poor lands, but on those in a good state of cultivation timothy should have the preference over clover. Timothy has a market value while clover has none. You cannot tell what price it will bring. Mr. Archer considered timothy as valuable a hay as any other for a farmer's own use. Land in good condition need not have clover sowed on it. On such land you cannot plow down a heavy growth of clover and apply say 700 or 800 lbs. of bone dust to the acre, because it would make your wheat too rank. Therefore he did not think clover would make a permanent improvement on good land. Enough clover will come up naturally on good land, and there is less risk in curing timothy than clover.

James H. Ball said he had almost come to the conclusion that clover is the only grass seed that should be sowed on arable land. He prefers clover hay to any other. All kinds of stock eat it, and to improve land it is equal to any crop grown. If allowed to ripen before being plowed under it will be worth ten times as much as if plowed in May. While it stands it is constantly improving the land. Timothy impoverishes land. Clover should be pastured, but not too close. Tramping it by stock is of advantage, as it makes the ground solid and prevents mice

from getting in and injuring the roots, which they are liable to do. Weeds should be cut out of it before they go to seed.

John Moores regards clover as king among grasses. It is the foundation of farming, whether a farm is rich or poor. Stock, and especially horses, are apt to eat too much of it. It will keep them in better condition than any grass or grain we have. Clover will not often last longer than the second year. He sows one bushel of seed to eight acres in February, and the same quantity in April. He never saw it miss but once in 30 years when sowed early. If timothy is sowed in the fall, don't sow so much clover in the spring. Clover pays well for seed. Last year he had 50 bushels of seed from 20 acres, and did not get three-fourths of it out. Clover is difficult to save. Too much should not be cut at one time and it should be cocked over night, when it will do to haul in the next day. Clover stands dry weather better than any grass we have. Now it is the only grass he has. Timothy and blue grass have not grown at all, but his clover is growing every day. His cattle are doing well on it.

Horace Whiteford thought no farmer could afford to do without clover. It is the greatest land renovator we have. If you can get a set it will, if plowed down, bring up poor ground. There is no trouble in getting other crops to grow where you can get a good crop of clover. It stands dry weather better than timothy, because its roots penetrate farther into the ground. If rightly cured it is as good as timothy for feed. It should be raked up as soon as wilted put in little sacks over night and hauled in the next day. Cured in that way it will come out of the mow as bright as the day it was put in. The tighter it is packed away the better. It is a good plan, in ordinary seasons, to sow corn with clover. If it catches it should be allowed to lie over one year and when plowed down will bring another crop of corn.

B. Silver, Jr., believed clover to be a good thing, because it keeps ground in good order and is good as a renovator. Prefers it for his own feeding, but prefers timothy as a marketable feed.

John H. Janney agreed with Mr. Moores in considering clover king. No fertilizer we can use is equal to it. If he lived where he could get lime conveniently he would soon want no commercial fertilizer. With clover and lime you can improve any land. With commercial fertilizers you can only keep land up. Has tried plaster on wheat land and when sowed in clover has never failed to get a good stand. The proper time to plow under is the second year. The roots have then attained their full growth and are the most valuable part. The danger of plowing under a heavy growth of top on light land is that it may make it too washy. His cows pastured on clover are in as good order as stock cattle on old grass. He sows clover as soon as the ground is in condition in the spring, say from latter part of February to the middle of March.

S. M. Lee remarked that all agricultural writers recognized clover as a grand principle of improvement. Clover is a triennial plant. It is sown one year, in its prime the next, in fair condition the next, and seldom lasting longer than

three years. He generally sows from the last of February to the 10th of March, but is more successful by sowing in January or February. If sowed later than the 10th of March he would like to give the ground a harrowing as soon as the ground can bear the cattle. The nutritive value of clover as a fertilizer to the ground is enormous. That fact he had seen illustrated many years ago by the improvement of lands under his knowledge by plowing in clover. The plant should be at full maturity when plowed in. Some trouble is experienced in properly curing clover hay, because there are usually frequent rains in June. If it becomes wet and is dried a few times it gets dusty and it is considered imprudent to feed horses on it in that state, unless dampened. For work horses and cattle clover is a grand thing. It materially lessens the expense of grain feeding. Well cured clover hay may also be fed without much danger to driving stock, if sufficient care is used in feeding. Occasionally a batch of clover hay is lost in curing. That is not of much consequence, as better corn will be raised where the clover is allowed to lie than where it is taken off. The heaviest crops of wheat he ever saw were made from plowing under a heavy crop of clover, without other fertilizers.

Wm. F. Hays agreed with Messrs. Moores, Janney and others. If he had to farm without clover, he and farming would dissolved partnership.

Wm. W. Castner said he was a strong friend of clover. It is worth more to the grain farmer than all other grasses together. If we can get enough decomposed clover roots in land we can get along without bone. Clover should be plowed down the second year. Mr. Castner is not afraid to plow down good sod for corn. Has sowed from February to May, has rolled, has harrowed, and sowed without either, and concludes that there is not so much in the time of sowing as in the season after harvest. Has never failed getting a good stand by early sowing.

S. M. Lee said that only twice in his experience of 50 years he had lost clover from winter sowing, by freezing out. Killing out in August by drought is more general. His experience in sowing clover with wheat has been rather against than in favor of the practice.

Mr. Moores said he had seen this plan tried with success.

Geo. R. Glasgow likes to see plenty of clover raised and plowed under. He prefers timothy for riding and driving horses, but clover for cattle and sheep. For pasturing cattle he prefers clover and timothy mixed. He sometimes sows clover alone, allows it to stand two years and plows under for wheat. There is no better manure than clover. Would rather plow it under than use bought manures. Prefers to sow the 1st of March.

Lycurgus Lee, of Kansas, said that in the part of the West where he resides they have little experience of the value of clover, but depend altogether upon the natural grasses. The only object Western farmers have in sowing clover is for pasture for their hogs. Many of them sow little lots for this purpose and it does well. In the future it will no doubt be raised in consider-

able quantities. Clover is of decided advantage by being turned down on thin lands.

B. H. Barnes regards clover as the best grass seed sown, as a fertilizer. As hay it is the best we have for cattle, but he prefers mixed hay for horses. For pasture it is better for growing animals, and with a little grain is excellent for working stock.

James Lee prefers clover to timothy for horses. All hay should be dampened before being fed to horses, and driving horses should not have too much of it. Sow in February. Nine out of ten farmers will say it improves land. It stands the drought better than other grass. Clover pasture will do well for fattening cattle but not so well as natural grass.

Wm. D. Lee said he had noticed this summer that clover furnished the best pasture. One great advantage in plowing down clover is that it makes commercial fertilizers act better.

Judge Watters, who occupied the chair, in the absence of Mr. Silver, President, said that clover was one of the most important agents we have as a fertilizer. If you can get clover to grow and don't get your land rich it is your own fault. He had changed his opinion in regard to clover hay. He had been taught that it was good feed for cattle, but not safe for horses. He thought this idea arose from the fact that horses will eat more of it than they ought. If fed on timothy or wheat straw they will not eat enough to injure them. Heaves come from overcrowding the stomach. He never considered clover extra good pasture. This year has raised the standard of clover as pasture, because it has stood the drought. The proper way is to have a permanent pasture of natural grass and depend upon clover for winter feeding and improving the land. When close to market timothy is a profitable crop to sell, but he doubted if it was profitable as feed.

The discussion was closed at this point. Mr. Munnikhuyzen is not farming, but the committee of inspection reported that he had made great improvements to his barn and that his horse and cows look well.

Besides active members there were present Messrs. Lycurgus Lee, formerly of Harford, but now of Kansas; S. M. Lee, Geo. R. Glasgow and Horace Whiteford.

Plowing.

The soil is in condition for plowing when it is so softened by moisture that a clod of it may be rapidly broken into pieces by crushing it in the hand, and is not so wet that pieces of it will easily stick together.

1st. Then, by repeated use of the plow and harrow, the soil is more or less broken into small lumps.

2d. When it is plowed for summer fallow the moist clods are exposed to the heat of the sun and crack somewhat, as they contract on drying. Each succession of wet and dry will therefore provide this action.

3d. When it is plowed for winter fallow the water in the clod will expand as it freezes, so separating portions which remain apart when

the ice thaws, and this is repeated throughout the winter as often as the soil is frozen.

Each of these three operations aids in converting that which was compact into a heap of small lumps, loosely resting on one another and leaving pores between them for access of air, water or roots. As soil is tilled more and more these lumps become finer and more uniform in size.

We must not lose sight of the fact that though these particles vary, say from $\frac{1}{16}$ to $\frac{1}{8}$ of an inch, in size, each of them is still composed of a large number of very fine particles very closely compacted together.

In soil thus pulverized air or water can pass with comparative rapidity, and then it can enter the very fine pores of the little lumps, or the roots and rootlets of a plant can readily push down into the soil and spread throughout it, bringing the rootlets in contact with the small lumps that the microscopic root hairs may enter into the minute pores of these lumps and obtain food from them.

What I have said of clayey soils applies in part also to those mixed with sand or calcareous matter, but the latter soils have less tenacity and therefore may be more readily pulverized by tillage. Moreover, they can be worked when they are wetter and also when they are dryer than can a clayey soil, thus giving a much wider range of time through which they may be worked with advantage.

When the particles of the soil are soaked with water they are softened, and if undisturbed they may dry off without any alteration; but if they are pressed when wet they will stick together and lose the larger pores which were between them, and when dry form a compact mass more or less such as the soil was before it was cultivated. In this we have the explanation of the evil effect of plowing soil when it is too wet.

PROF. F. P. DUNNINGTON.

Our French Letter.

Steam and Electricity in Farm Operations.

Messrs. Editors American Farmer:

With the view to develop the use of steam plows in France, a native manufacturer will lend that implement gratis, in order that intending purchasers may test its utility. The combination system for the general purchase of farm machinery, the subscribers employing the implements by a rotation determined by lot, is also making satisfactory progress. At the Electricity Exhibition the plow ordinarily worked by steam has for motor electricity, which drags the machine in inverse directions to the locomotives. In the case of the electric motive power, it is not necessary to transport the generating machine to the grounds; the current can be sent along by wires at a distance of one or two miles from the farmstead, where the generator can be turned by the stationary steam engine. It would seem that the only difficulty connected with the use of electricity is to be able to produce it on a large and cheap scale. In the case of extensive illumination electricity can be profitably employed, but not otherwise

up to the present. There is no doubt electricity as a source of power and heat, as well as of light, will be made commercially cheap. For example: The power of the fluid is marvellous. In the Electric Exhibition the one current supplies the light and drives the several machines, while never displaying any diminution in power, despite the several and varied demands made upon its services.

Precocious Merinoes.

A warm discussion is going on between scientific and practical men as to the possibility of profitably rearing precocious Merinoes for the butcher. The scientists assert the practice is remunerative, but their opponents reply, offering an examination of their accounts, that since thirty years they have been occupied with the question, and have never found the precocious Merino a paying investment, save where the rams are reared and exported for breeding purposes. A flock, then, of Merinoes, highly fed and destined early for the butcher, does not pay—in France, at least. Scientific authorities are called upon to rebut these facts by counter-facts.

Horses in Algiers.

France expends three-quarters of a million francs annually in the purchase of native horses in Algeria for cavalry wants, besides awarding prizes to breeders and supporting studs. The horses of Algeria are not good looking, but they are serviceable and bear immense fatigue. The Arabs continue to prefer mule-rearing to horse-breeding. The mule is more easily reared, fetches a higher price, and often commences work at the age of eighteen months. For the Arab the mare is his all. Her foal, if of the same sex as the mother, is a joy, and is reared; if the contrary, a veritable calamity. Cattle-rearing is more remunerative than horse-breeding, and less liable to deceptions.

Salicylic Acid.

after remaining for a long time a laboratory curiosity, has developed into a modern industry. The new product was accepted by some enthusiasts as the philosopher's stone. It was boasted that it cured every disease, no matter whether of long or short standing, like a patent medicine. Then came the inevitable reaction. The French Government excommunicated it in the interest of the public health, while other countries that dispense with governmental tutelage had no complaints to record on sanitary grounds. In Germany the acid has been found by veterinary surgeons efficacious against several diseases. Horses with sore mouths were cured in five days by merely allowing them to bathe their lips in a weak solution, renewed thrice daily. In 1874, in Hungary, when the poultry epidemic broke out—eruption about the eyes, head, feet, etc.—a cure was effected by touching the affected parts with a brush dipped in a solution, adding the acid to a tub in which ducks and geese could bathe, and mixing it with the sand or ashes wherein fowls like to roll. Of late, in Germany, salicylic acid has been successfully and generally employed, not as a remedial so much as a preventive agent. For horses, bulls,

cows, etc., these receive one-thirtieth of an ounce daily, smaller stock in proportion; about three ounces of the acid are dissolved in a bucket of warm water and the solution proportionably distributed. As an antiseptic the acid is excellent. An objection has been made that it lessens the reproductive powers of stock, but M. Ludloff, who has employed the acid daily since five years, finds that 100 cows produced 89 calves, while the average was 88 for the preceding five years. The generative functions are thus unaffected. The cost of the acid per head of cattle per week is only one penny.

The Cultivation of the Parsnip

is taking extensive proportions in France as a forage plant. Its natural home appears to be Brittany, where it continues to grow till the close of December. M. Le Bian has made the culture of this root a specialty, and is in a fair way to substitute it extensively for oats for horse-feeding. It goes capitally with maize, and hogs accept it as a dainty dish.

Charbon.

The seat and centre of the charbon disease, or "mountain malady," is in Auvergne. The Pasteur process of vaccination has been tried in several of the mountainous districts, and with the fullest success. M. Pasteur announces that he is occupied in the arrangement of a little laboratory for the commercial preparation of vaccine. He will not be ready to execute orders till next spring. No loss will be incurred in the interim, as the disease is limited during winter. He will prepare forty-four gallons of "virus"—sufficient to vaccinate one million animals. It will be forwarded in special glass tubes, and the cost will be one halfpenny per head of stock. Up to the present thirty thousand animals—sheep, oxen, cows, horses, etc.—have been vaccinated, and with success in the sense that they have been saved while others at their side have succumbed.

The Phylloxera.

The two most successful means for destroying the phylloxera are autumnal inundations followed in spring by rich manurings, and next, the use of sulphuret of carbon, in the proportion of three-quarters of an ounce per square yard, dibbled around the roots. The sulphuret has the disadvantage to be dear and the drawback of killing the patient occasionally. Where the latter occurs the cause will be found to reside in an excess of humidity in the soil and the low-ness of surrounding temperature. On well-drained lands having a silicious or calcareous subsoil the sulphuret may be employed with safety. Treat only vines not too gravely attacked by the bug, and select winter for the work. When the soil is tenacious and the disease long standing, multiply the holes in the square yard and reduce the doses. In spring apply farmyard manure, with the addition of potash salts—in the chloride form, for example—but never employ oilcake.

The Dutch Poultry Show

was especially remarkable for its splendid organization. The birds had little parks in which to

move about, and water-fowl had their bath—all as might be expected from the country proverbially clean. It was the unanimous opinion that the flower of the flock were the Dutch Padmans.

Items.

Mr. Barral has made some experiments on the quantity of food consumed and assimilated by poultry, and concludes that, weight for weight, they eat more than mammiferous animals or birds at liberty.

The Department of the Seine Inférieure is very pastoral. It has 133,000 milch cows, yielding on an average six quarts of milk daily. From this milk butter valued at 26,000,000 francs and cheese at 7,000,000 francs are manufactured. It is proposed to create a model dairy farm, totally independent of the State, where, as in Denmark, theory will march hand in hand with practice. Were the capabilities of this region developed, the butter made to-day could be sold at London next morning.

Petroleum cures cutaneous affections. M. Desbois finds that if it does not kill ants it drives them away, as he knows from experience in his conservatory.

It has been decided by several of the Councils-General that for the future the highroads and byways shall be planted with fruit trees instead of elms, poplars, acacias, ash, etc., that merely exhaust the soil.

The vintage is excellent this year in point of quality.

The beet crop will not be heavy, but the juice will be very rich.

Paris, October 8, 1881.

F. C.

Level Culture of Hoed Crops.

The following, from the *Massachusetts Plowman*, presents in a very plain way the advantages of this system:

While the modern farmer, as a rule, avails himself of every change for the better in his farming operations, at the earliest moment possible, there are some modes of practice that he clings to with a tenacity that listens to no suggestions for a change; among them may be classed the hilling of hoed crops. While the farmers of Massachusetts lose, at a low estimate, not less than one million dollars every year by this practice, there seems to be no evidence that there is any disposition to abandon it, except among those who occupy the front ranks in agriculture.

A careful investigation will convince one that the hilling process is continued for several reasons. First, a considerable portion of the labor on our farms is done by those who took their first lessons in agriculture in Europe, where, possibly, the hilling process may be best, and persist in practicing in our hot, dry climate what they were taught in a cool, moist climate. Second, the Yankee long ago learned that by covering up the weeds that grow in the hill, it saves pulling them out, and so he thinks it is economy to hill, because it covers up the weeds in the hill, and saves the bending of the back. Third, it

seems to be the universal opinion, among those who practice hilling, that it prevents corn from blowing down, and potatoes from growing above ground. Because workmen have learned a practice that is not adapted to our climate, it is no good reason that we should permit them to continue it on our lands, to the great injury of our crops; we should insist upon it that they shall so change their ways as will conform to the character of our climate.

As to the economy of hilling, the economy is in level culture; if the plow be used the first and second time of cultivation, and the earth be turned from the crop each way, it destroys all the weeds, except in the small square occupied by growing plants; if no manure containing weed seeds be placed in the hill, there will be but little trouble in keeping the weeds out; and if at the last time of cultivation the cultivator be used, the land will be levelled off, and the weeds so completely destroyed that there will be but very little to be done with the hand hoe.

Careful experiments have proved that corn which is hilled will blow down more than that which has level culture; this can be accounted for by the fact that corn roots run very near the surface, and when hills are made they are confined to the small space covered by the hill; but in level culture the roots run from one row to the other, thus making the corn stand strong, as nature intended, and in no way liable to blow down, except by an unusually violent wind.

In hilling potatoes a new set of roots are formed every time the hill is increased in height; wherever roots appear there small potatoes soon begin to form; those that form after the last hilling will be very near the top of the ground, at the peak of the hill, which the first heavy rain washes away, and leaves the potatoes exposed to the air. The real facts are that more potatoes will grow out of ground by hilling than by level culture, providing the potatoes are planted as they should be. Potatoes that are not to be hilled should be planted deeper than those that are to be hilled; this gives room for the hill, in which the potatoes are to grow, to form below the surface, and as the land is kept level there is no danger of the potatoes being washed out by the first heavy shower, or suffering from the drought the first good sunny day, after a rain, as is often the case with those that are hilled. If there is any crop grown in New England that ought not to be hilled it is potatoes; yet it is almost the universal practice among small farmers to hill, and many of them to a degree that destroys more than half the crop.

As the potato grows best in cool moist weather, any method of culture which encourages coolness and moisture is beneficial, while on the contrary any method of culture which encourages dryness and heat is injurious. If this reasoning be correct then it must be admitted that hilling potatoes is wrong, for it seems impossible that any one can fail to see that land which is hilled offers more surface to the sun and air, and that while the hills, where the potatoes are expected to grow, will easily dry through, the hollows between, having had all of the pulverized earth scraped off, bake so hard that the moisture from below is rapidly conducted up to the air; thus in

two ways the ground is losing its coolness and moisture by hilling.

In level culture the land is kept loose, and thus the sun has comparatively little power to draw up the moisture, and as long as the ground is kept pulverized it cannot bake; every rain that comes, however small, reaches the roots of the potatoes, and is not carried off, as is the case where the land is hilled. Repeated experiments have proved that when potatoes are properly planted, level culture, on land that is not wet, will produce twice the amount of potatoes as those that are hilled, the treatment otherwise being the same. Potatoes that are not to be hilled should not be planted near the surface, nor should they be planted on the top of the manure that is put in the hill; if manure must be put in the hill, it should be on the top of the seed. In level culture the seed should be put at least four inches below the level of the surface of the ground, but when covered, left in a depression, to be leveled up at the first hoeing; in this way large crops can be obtained even in seasons as dry as last year.

The prejudice against level culture for Indian corn is not so great as that for potatoes, yet the hilling process even in growing corn, is practiced to an extent that reduces the amount grown in the State many thousands of bushels every year. The fact that the premium crops of corn are almost invariably grown by level culture speaks in language not to be mistaken. We have never yet seen seventy-five bushels to the acre grown where the land was hilled very much, but we have seen over a hundred bushels to the acre where level culture was practiced.

We hope that in future farmers will pay more attention to the subject than they have in the past; that they will, by careful observation and experiments, satisfy themselves beyond the possibility of a doubt which is the best, hilling or level culture. When we fully understand the best methods of culture for each crop, there will be less complaint about the weather, and the losses by the dry weather. Intelligent farming will do much to assist crops in their struggles with the extreme variations in the weather.

Increase in Grain Products.

The following table from an extra bulletin shows the cereal production of the country for the year 1879, on the returns for which the census of 1880 is made up, as compared with that of former census years. The enormous stride made in these products cannot escape attention. The figures given denote bushels:

	Ind. Corn.	Wheat.	Oats.	Barley.
In 1850....	502,071,104	100,485,944	146,584,179	5,167,015
In 1860....	838,792,742	173,104,924	172,643,185	15,825,898
In 1870....	760,944,549	287,745,626	282,107,157	29,761,305
In 1880....	1,754,861,535	459,479,505	407,858,999	44,113,495

SALT ON WHEAT.—Experience has demonstrated that salt sown broadcast when wheat is well up and stooling will prevent rust. It is also credited with the effect of greatly stiffening the straw.

Census Statistics of Maryland's Grain Crops.

The following are the statistics of Maryland's production of wheat, Indian corn, oats and rye in 1879, embodied in the census of 1880. Her product of wheat in 1870 was 5,774,503 bushels; of corn, 11,701,817 bushels; of oats, 3,221,643 bushels; of buckwheat, 77,867 bushels. The last-mentioned grain was produced to the extent of 136,667 bushels in 1880. There were 6,197 bushels of barley grown in the State in the last census year, and 288,067 bushels of rye. The production of the four great grain crops in 1880 is given below by counties:

COUNTIES.	WHEAT.	INDIAN CORN.	OATS.	RYE.
Acre.	Bushels.	Acre.	Bushels.	Acre.
Allegany.....	7,430	67,435	8,061	296,949
Anne Arundel.....	10,361	28,671	3,108	32,770
Baltimore Co.....	28,629	383,402	39,431	602,391
Calvert.....	4,841	56,170	10,848	1,291,699
Carroll.....	18,336	187,281	30,500	512,630
Cecil.....	40,777	279,333	31,983	911,273
Charles.....	39,873	471,045	25,704	847,734
Chesapeake.....	13,047	108,133	25,022	412,161
Dorchester.....	25,679	197,963	38,380	644,697
Frederick.....	83,767	1,118,342	62,002	1,771,556
Garrett.....	2,412	38,360	4,714	77,253
Hannover.....	18,445	303,533	17,355	1,017,964
Harford.....	37,781	556,947	29,067	800,005
Kent.....	35,673	613,702	33,287	1,020,573
Montgomery.....	14,181	176,946	28,867	626,888
Prince George's.....	41,223	358,333	38,673	974,831
Queen Anne's.....	18,534	153,671	25,088	390,796
St. Mary's.....	8,052	83,812	22,501	380,787
Somerset.....	31,129	608,316	29,003	1,061,919
Talbot.....	36,923	1,021,630	31,910	1,093,581
Washington.....	14,308	21,058	11,510	1,093,581
Worcester.....	8,521	41,758	11,510	1,093,581
The State.....	501,396	8,001,894	661,938	15,998,433

Selling by Weight.

It cannot be denied but what the fairest way in disposing of articles from the farm is by weight. It is the only proper way; and why? Let us take eggs, for instance. A dozen of large eggs, under the present system of traffic, brings no more than a dozen of small ones. No one will pretend to say there is any justice in this. Then take potatoes or turnips, or apples or onions or fruit of any kind. A person who understands "dark ways" can make, by measuring by the bushel or quart, a good deal more or less according to the interest that suits him. In all the berries sold in this market by the quart there is a leakage in the measure in most instances. Honest scales won't cheat.

It is just as right to sell wool by the fleece as it is eggs by the dozen or hay by the load—as to sell potatoes, tomatoes, wheat, rye, barley, oats, corn, apples, berries by the quart or bushel. There is no justice in it, neither is there any representation in it. The only fair way in either buying or selling farm products is by the weight.—*Ex.*

Why Does Timothy Run Out?

Mr. T. S. Gold, West Cornwall, Conn., writes as follows in *The N. E. Homestead* of some of the theories put forward to account for the running out of timothy, and of his purpose to try a plan that has proved successful in the case of clover:

"The disappearance of timothy from our natural mowings is variously accounted for. First, it is charged to the mowing machine as cutting too closely. We usually run our machine at medium height, rarely using the closest cut, but would prefer the medium or highest. Here we encountered a difficulty from the fingers clogging with fine grass, so that we could not use the highest cut, and the machine would run over much of the lodged grass. Second, it is charged to too early mowing, as we mow some two weeks or a month earlier than formerly. Timothy runs out most upon seedings of the early cut meadows. Third, we agree with those who attribute it to the peculiar character of our seasons rather than to either of the above. Some period of each year for the last ten has been remarkably dry, and the timothy has never recovered from the effects. As timothy is cut earlier, there is less natural reseeding than formerly, also less is foddered out on the fields, scattering the seeds. I shall try reseeding with timothy, with top dressing and the Thomas smoothing harrow. I have tried red clover successfully in that way. This seems to be the best means to overcome the white daisy. Give an abundant top dressing, thirty cart-loads per acre, and four quarts of clover seed harrowed in. Two applications will surely prove effectual on any reasonably good land."

Two Old Letters.

The two letters we reproduce from the 8th volume of the first series of the *American Farmer* have a renewed interest just at this time, when the descendants of La Fayette are visiting this country to join in the celebration at Yorktown. The first is from La Fayette himself to John S. Skinner, the founder, and long the editor, embracing some years after it passed into the present management, of the *Farmer*; the other was written by a citizen of Baltimore, still living, who was then traveling in Europe, and who carried a letter of introduction from Mr. Skinner to Gen. La Fayette. We think both will be read again with pleasure at this time.

Extract of a letter from Gen. La Fayette to J. S. Skinner, Editor of the "American Farmer," at Baltimore.

LA GRANGE, Jan. 20, 1826

It is not an easy task for me to submit to the wide material separation which now exists between me and my American friends while my mind is constantly with them; and the regret for the loss of their society, mingles with an ardent sympathy in their public and personal concerns. So prompt I have been in recovering pleasing habits, and so much attached I feel to my new as well as my old connections in the United States, that it seems to me quite strange to think this winter will pass without meeting any of you, either at Baltimore or Washington. I am eagerly waiting for the papers and letters from my friends, and beg when you write to remember that at a distance minute particulars are very welcome.

The affectionate reception I have met from the people on my journey and on my arrival to this part of the country, and the family and friendly enjoyments that awaited me, have been sadly troubled by the illness of one of my granddaughters, who, contrary to all expectations, is happily recovered. I have passed, hitherto, most of my time at La Grange; but am now going for two or three months to town, saving some excursions to my farm. I must give you an account of the stock you so very kindly assisted in forwarding and increasing. One of Mr. Patterson's Coke Devons, the elder bull, died on the passage; the three others have recovered from the fatigue and are now in fine order.* The giant wild turkey we have admired together, died also at sea; his brother, and another from General Cocke, of Virginia, arrived safe; two small Virginia hens never could retrieve the injuries of the sea, but the males are very hearty. Your two hogs have well supported the voyage, and are better shaped than any I have seen, although I have chanced to obtain the best of an importation from England. The Virginia plough you have been pleased to forward, has been presented for examination to the Central Society at Paris. I expect their report. I am anxiously looking for the arrival of two models kindly promised, the one a steam machine, after that of Mr. Robert Smith—the other a threshing machine; this is sent by Gov. Sprigg, the steam one by Mr. Morris.†

Should they be ready to reach New York by the first April, capt. Macy who sails on the 5th, and comes himself to Paris, will take charge of them. Permit me to entreat your kindness for two other articles; I much wish to introduce at La Grange, the pretty American partridge, so called in the south, and quail, in the north, and the terrapin, about whose management I would need an instruction.—Capt. Macy would take care of them, and if the kind friend, Joseph

* These were of the pure blood, all generously presented by Wm. Patterson, Esq., to the old "American veteran."

† Instead of a model, Mr. J. B. Morris sent him a complete and very elegant steam apparatus, for steaming food for 50 head of stock, with everything prepared for immediate use. It must have cost several hundred dollars.

Townsend, who had found the mammoth turkey, persist in his good intention to send some more, or you could get some of the tame breed, second or third generation, at the good Postmasters at York, Pa. capt. Macey might be entrusted with them.

I have on my farm a fine shepherd's dog, and can find a proper slut for him; but the more I inquire and see about those dogs, so very sagacious and useful here, the more I find that their principal merit is lost when they have not to execute the orders of a shepherd in the marshalling of a flock.

No letter from you, my dear sir; no number of the American Farmer has been received, although I hoped it might come by the last packet. Charles Lasteyrie went to Italy immediately after my arrival; he is daily expected in Paris.

Although I had more to say of Agricultural concerns than European politics, nauseous as their diplomacy, cannot fail to be to our American taste; I will tell you in a few words.

Extract from a letter of an American—dated

PARIS, November, 1826.

My last letter mentioned that I contemplated a visit to Gen. La Fayette, at the ancient chateau of La Grange. A few days since Mr. — and myself set off for the purpose of accomplishing this, which has proved to be the most deeply interesting visit that I have made, and one which shall not soon be effaced from my remembrance. The distance from Paris is 33 miles, and we went in a diligence to Rosoy, and thence in a small voiture to La Grange, where we arrived in the evening. Driving through the ancient arched gateway into the court yard, we alighted and were immediately ushered up stairs, where we met Mr. G. W. La Fayette in the ante-room, who conducted us into the drawing room, where sat his father with several gentlemen. Upon entering, we soon recognized the benignant features upon which we had so often dwelt with interest during his visit to our country; and the General immediately arose, and advancing with a friendly smile to receive us, welcomed us in the kindest manner. After reading the letter which I delivered, he began to inquire about his — friends; manifesting the greatest interest for them, and the most minute recollection of every thing concerning them. He inquired most particularly about the young ladies of his acquaintance, and wished to know who had been married since he left us. After having conversed with the General for some time, Mr. G. W. La Fayette showed us to our room; and on returning to the drawing room, I was much surprised at the number of ladies and gentlemen, particularly of the former, who were assembled there, amounting to quite a large party, although the greater proportion of them were members of the family of La Fayette. The General advancing to meet me, took me round and introduced me to most of them; and among the company were three American ladies, the celebrated Benjamin Constant, one of the first literary and political characters of France, and a particular friend of the General; Levasseur, his companion during his tour in the United States, together with several others.

Gen. La Fayette's family while at La Grange consists of his son, G. W. L., and his lady, the Comtesse Lasteyrie and Madame Latourbourg, his daughters; nine granddaughters, one of whom is married, and two or three grandsons, very young—the Comte Lasteyrie is also there, but he has long been very ill.

Dinner being soon announced we all went down, and at the table were seated twelve ladies and ten gentlemen, besides half a dozen of the younger members of the family at a side table. Such is the pristine hospitality of La Grange, and it recalls the memory of patriarchal times to see the venerable patriot, in the evening of his days, thus surrounded by his descendants, all of whom manifest towards him the most respectful and affectionate attention. After a very pleasant time spent at the table, we returned to the drawing room, and the evening passed away in the most agreeable manner in conversation with the General and the young ladies. There are six of the granddaughters who are grown up, all of whom are very agreeable. They speak English, more or less; but I could not persuade any of them to converse with me in that language, when they found I understood French—and this is their invariable practice. They are all very much attached to our country, and express a great desire to visit it.

I had much conversation with our venerable host, during which I often found my attention wandering from the subject on which he spoke to the character of the speaker himself, and the many admirable passages of his eventful life; to his early and generous self-devotion to the cause of our country when struggling in her infancy, almost hopelessly, for independence; to his firm, his fearless and consistent deportment throughout that dreadful revolution which deluged his native land with blood, when his adherence to principle lost him his popularity and endangered his life; and, finally, to his recent visit to the United States, and his long continued triumphal progress through the land for whose liberty he so gallantly fought in his youth. And when, after a most interesting and agreeable evening, I retired to my room, it was long before I could close my eyes; my thoughts recurring to the society in which I had just been, and dwelling upon him whose hospitality I was now enjoying. I could hardly realize that I was actually at *La Grange*, the abode of the noble minded, the excellent La Fayette; the mansion of him whom we had so recently seen on the other side of the ocean, receiving a joyous welcome to the "hearts and homes" of a grateful nation.

In the morning, we all re-assembled at breakfast; on returning from which to the drawing room, our attention was called to the "star-spangled banner," the beautiful flag of the Brandywine, suspended in the adjoining apartment above the portraits of Washington and Franklin, one of its folds being gracefully thrown over the former. It was a grateful spectacle, indeed, to an American, to see the flag of his country graced thus with an honoured station in a foreign land, and in the abode of one of its earliest and bravest defenders. This was presented to General La Fayette by the officers of the Brandywine upon his leaving the frigate at Havre, accompanied with a request that it might

be displayed upon the anniversaries of Washington's birth day and the Declaration of Independence—which he has more than complied with from the situation assigned it.

Around the walls of the sitting room are hung the portraits of all the Presidents of the United States.

We were invited to go out to shoot with some of the young gentlemen, but declined, preferring a walk with the young ladies, who accompanied us around the grounds in the vicinity of the chateau, notwithstanding the wet and unpleasant state of the paths, which, however, the ladies of France do not much dread. On returning to the house, the General went out to plan some improvements in his grounds, but not without first calling his granddaughters around him to hold a consultation on the subject; and it was really an interesting spectacle, to behold one who had been a chief actor in so many trying scenes, thus kindly consulting the taste and the wishes of his amiable descendants as they gathered around him, upon a subject of comparatively so trivial a nature.

In the course of the day we walked out to obtain a view of the front of the chateau, which we had but imperfectly seen the evening before, and which is the finest part of it. On each side of the arched gateway before mentioned, is a large round building in turretted form, surmounted by cupolas, the whole most richly and beautifully covered with luxuriant ivy clinging to the gray walls of this time honored edifice, and finely contrasting its deep green with their venerable hue. The chateau of La Grange is the ancestral residence of General La Fayette, and is 900 years old.

At dinner as large a party assembled as on the preceding day, and the time passed very pleasantly, and after another highly agreeable evening we took leave of this interesting family, intending to return on the next day to Paris. The General wished us to remain longer, but finding we were resolved to go, he promised to send us to Rosoy in his own carriage, and to rise in the morning to see us off. We remonstrated against this, but he said that he had always been an early riser. In the morning we found Mr. G. W. L. waiting for us below, some coffee prepared for us, and the carriage at the door. Our venerable host, early as it was, soon came down to see us, and after a short conversation we bade them farewell, and stepping into the carriage departed from the hospitable mansion of La Grange, perhaps never again to experience the kindness of its most estimable proprietor, and his most amiable and interesting family. Thus terminated a visit, in every respect truly delightful and interesting; one which will ever be most deeply engraven on my memory; one, upon the recollection of which, I never cease to dwell with the greatest pleasure.

CONCERNING the display at the Atlanta Cotton Exposition it is said that nothing to be seen impresses the looker-on so favorably as the character of the displays. There is no "Cheap John" work in any department. Everything is the very best America produces in its particular line.

Live Stock.

Reasons for Preferring Cotswolds.

The Messrs. John 'Snell's Sons, well-known breeders of cattle and sheep of Camden, communicate the following to the *Farmers' Advocate*:

Having had considerable experience in breeding Leicesters, Lincolns and Southdowns, as well as Cotswolds, and having given all a fair trial, we decided in favor of the Cotswolds as the best breed for all purposes, combining, as they do, weight of carcass and weight of fleece in a greater degree than any other breed.

Being a pure-bred sheep, the rams are better adapted for crossing upon other sheep than those of any other of the English breeds; the first crossing frequently producing an animal having nearly all the appearance of the thoroughbred.

As in America the pure-bred sheep must be used mainly in its crosses upon other sheep; the breed which will make the greatest improvement in combining the largest weights of mutton and wool with early maturity demands the preference.

The demand that is springing up in this country from England requires something approaching to a fair or good mutton sheep. The Southdown for *quality* of mutton excels all others, but they are light shearers and of light carcass, and with all the talk of the shippers about *quality*, we have noticed that they are not willing to *pay* for *quality*, but will pay the highest price per pound for *heavy* sheep.

The Leicesters are good feeders and mature early, but are not hardy and they produce too much *fat*, not being so well marbled, or mixed with lean meat. They are not as heavy shearers as the Cotswolds, and will get bare of wool on the belly and legs, which is a vexatious failing, as it is almost impossible to sell a ram with bare belly or sack. The Cotswolds hold their wool below to any age, and there is less difficulty in getting a suitable ram to breed from than in any of the other breeds.

The Cotswolds are hardy, heavy shearers, quick feeders and early maturing. Crossing them upon Merino, or native ewes, their produce, the first cross, is nearly equal to the thoroughbred in size and quality, and at the present time the fleece is in demand at prices beyond the Merino, or pure-bred Cotswold. They will go to market under liberal keep at 18 months old, weighing 150 to 200 pounds, live weight, and at this age will command the top prices from the butcher in our best markets.

There is none of the mutton breeds that will feed out at an early age with as much profit, and none that will cross on other sheep with as much profit.

In order to show to what weights Cotswolds can be fed, when forced, for show purposes, we may state that we have had ram lambs at 7 months to weigh 180 lbs.; yearling rams at 18 months, 350 lbs.; and matured rams at 2½ years, 426 lbs. Ewe lambs, 160 lbs.; yearling ewes, 266 lbs.; and aged ewes, 346 lbs. At the Chicago fat stock show in 1878, we showed 9 ewes

that averaged 315 lbs., the lightest being 290 lbs., and the heaviest 346 lbs.

We think we may safely challenge the breeders of any other breed of sheep to show a better record of weights than the Cotswolds have made at any age, and while we do not approve of forcing sheep intended for breeding to such weights, or nearly approaching them, as we know it sadly impairs their usefulness as breeders, yet we are proud of the breed of sheep that is capable of making such records.

As to weight of fleece, we have had rams to shear as high as 20, 22 and one 26 lbs.; and ewes from 16 to 20 lbs., unwashed wool of good quality, and for several years our flock of breeding ewes have averaged 10 lbs. of clean washed wool. Compare this with the average of 5 lbs. or 6 lbs. from some of the other breeds, and even if their wool brings two or three cents per lb. more, our fleeces made nearly twice as much money, being nearly twice as heavy.

Most of the English Downs, such as the Oxford, Shropshire and Hampshire, have been made up from crosses of the Cotswold and the Southdown, and are at best only cross-bred sheep, and though by culling freely from large flocks they have produced large mutton sheep, yet it must be admitted that they have not become a sufficiently fixed breed to produce anything like a uniform offspring when crossed upon common and grade sheep, and we shall be mistaken if those who are paying high prices for imported animals of these mixed sorts do not find themselves sadly disappointed at the end of two or three years' experience with them in this country, with American modes of handling sheep, and the absence of hurdles, turnip folds and experienced shepherds.

As an evidence of the growing popularity of the Cotswolds we may point to the fact that although in the last 15 years there have been ten times as many Cotswold imported from England to Canada as of any other breed, there has never been enough to meet the demand for them, and there never was a time when the stock of rams was so closely sold as at the present time. The demand for them from all parts of the United States, from Virginia to Montana, shows how well they are adapted for all sorts of soils and circumstances, more so, we venture to say, than any other breed.

Horses' Hoofs in Winter.

Lack of moisture is not necessarily a cause of brittleness of the hoof, since the horse has a strong hoof. A continued drouth is especially dangerous when it acts on a foot accustomed to abundance of water. Under the action of water the horn cells absorb, increase in size, and push each other apart. By this action, too, some of the gelatinous matter that builds up the horn is dissolved out, and when the hoof is again allowed to dry it has lost materially in its power of cohesion. The more frequently the process of soaking and drying is repeated the more hurtful it proves to the hoof, which becomes increasingly brittle and liable to split up. If, further, this tendency to brittleness has been inbred through

generations of horses, where the feet are alternately soaked by drenching rains and withered by drying suns, the danger is proportionately increased, and the feet of such a race of horses are especially liable to splitting and injury. It is not habitual dryness that injures; it is the alternations of rain and drouth. While upon this subject it may be well to note that the evil effects of moisture may be largely warded off by smearing the moistened foot with an impervious oil agent before exposing it to the drying process. In this way the moisture that has been absorbed by the horn has been retained, the sudden drying and shrinking are obviated, and the horn remains elastic and comparatively tough. As it is often needful to soak the foot in warm or cold water, or in poultices in cases of disease, it is all-important that the above-named precaution should be constantly borne in mind, and the softened foot should be smeared throughout with some hoof ointment before it is allowed to dry and harden. For this purpose nothing is simpler nor better than a mixture in equal parts of tar and whale oil or lard. This may be smeared on the foot every other day.

In addition to the changes of weather, the frequent standing in rotten dung-heaps or the pools of decomposed liquid manure may be named as causes of brittle hoofs. In the dung-heap there is not only the moisture and steam soaking and softening the hoof, but there is abundance of ammonia gas, which is especially calculated to soften, dissolve and destroy the horn. Rotten manures and putrid liquors, therefore, are much more injurious than pure water, muddy pools or wet clay. Again, the emanations of this kind are far from conducive to general health, so that they prove hurtful in two ways—first, by directly destroying the substance of the hoof, and, second, by reducing the animal vigor, the power of digestion and assimilation and the power of secreting good horn. Standing in such decomposing organic matter is still more injurious, however, when the animal is confined to a stall or box, for here the injurious effect of inactivity is added to the above-named conditions.

Long exposure to wet and mud also at this time of year frequently produces cracks and other troubles in horses' feet. The prevention is in keeping the feet clean by frequent washing and wiping dry with a coarse stable cloth. A little crude petroleum applied to the feet before taking the horses from the stable will help greatly in preventing them from becoming cracked. If the feet are already in bad shape they should be bandaged and the horse kept where it is dry. Cleanliness is the most effective prevention of trouble in the feet of horses.

Sick Horse.

Messrs. Editors American Farmer:

Please answer through your valuable journal the following questions: I have a fine farm horse that is afflicted with a cough and difficulty of breathing, sometimes worse than others. I have noticed that when he breathes there is a blubbery sound in his head and nostrils, and sometimes a frothy matter will come down his nose, when he is greatly relieved. I have noticed

three times a few drops of blood coming down his nose, but have never seen the frothy matter mixed with any blood. By naming the disease and giving a receipt for its cure, if any, you will greatly oblige one of your subscribers.

JOHN T. STEVENSON.

Caroline County, Maryland.

Reply.

From Mr. Stevenson's account his horse appears to be suffering from a neglected influenza cold, causing bronchial irritation. I would recommend the following course of treatment: Steam the horse's nostrils twice a day in this manner: Place some hay in a bag and saturate with boiling water; add one teaspoonful of carbolic acid sprinkled over the hay; then draw the bag over the horse's nostrils and allow him to inhale the steam for ten minutes. Give internally: Fowler's solution, 2 ozs.; tincture belladonna, 1 oz.; tincture aconite root, 2 drachms; water, 8 ozs. Give one tablespoonful in a little water four times a day.

R. P. LORD, M. R. C. V. S.

150 Penna. Ave., Baltimore.

Charcoal for Hogs.

Whatever hog medicine contains a good proportion of charcoal is presumptively a good medicine. It may be possible for quackery to so combine charcoal with other ingredients that the efficacy of this remedial agent will be destroyed, but it would, we believe, take a regular double-barrelled quackery to destroy it under any circumstances. It is a most useful medicine by itself, and worth more than any other one ingredient that we ever put into a medicine. It benefits the hog system by absorbing the injurious gases within it, and its absorptive powers are so great that it will absorb about eighty times more gas than its own measurement. It is to this quality that it owes its efficacy when given to bloated animals, and nothing equal to it was ever given or has ever been discovered in such cases. Few of our readers but are doubtless aware how magnificently it acts in human complaints, and to such it is recommended in diseases of domestic animals, and especially of swine, with just as much confidence of its being a success as when given to human beings. One beauty about it, too, is that it can do no harm, something that cannot be said of many of the nostrums which are recommended by avaricious compounders of medicine for animals. If it is given in too large doses it simply acts as a cathartic, and that is the end of it.—*Western Rural.*

Paralysis in Pigs—Thoroughbreds.

Paralysis of the hind quarters in pigs is sometimes caused by inflammation of and consequent effusion upon the animal marrow, causing pressure and loss of nerve power. Sensation and power of motion may often be restored by the application of a mild irritant to the loins. Tur-

pentine or a thin paste of mustard rubbed upon the loins over the spine generally leads to a cure. It is brought on by colds and damp quarters, or exposure to cold rains, and is more frequent in young pigs than old ones. A chill will sometimes produce it suddenly.

A thoroughbred pig, in starting a herd, is chiefly valuable in breeding to common stock. By using a thoroughbred boar upon common sows, a half-blood is obtained that does very well for breeding purposes, which can be further improved by selecting the best sow pigs, feeding them liberally, and again getting a thoroughbred boar to use with them. If this is practiced a year or two it will produce pigs equal to pure blood. But grade or impure males should never be used, as the tendency is to run back to the scrub. The thoroughbred, if purchased young, can be obtained for a small sum. He can be used one season and then sold, or castrated or fed, when he will, of himself, almost or quite pay for his original cost. Breeding in-and-in in the swine family won't answer.—*American Rural Home.*

More Triumphs for Maryland Berkshires.

Mr. Alex. M. Fulford writes us under date of October 17:

"Since writing you last I have exhibited my Berkshires at the Illinois State Fair and at St. Louis. At the State Fair, first on boars over two years old; first and second on boars between one and two years; first on sows between one and two years; sweepstakes on boar and sweepstakes on sow. At St. Louis I won first on boar two years old and first on Berkshire herd of one boar and four sows. This was the first time this season I showed for herd prizes, because—at other fairs—of the requirement that all the animals be over a year old, while some of my best animals were just under a year, thus keeping me from showing. Still, on the other hand, I here suffered from my older animals being forced into the same class and having to show against each other.

"At Peoria I purchased 'Bob Hood,' head of the winning herd at this show and a noted prizewinner at other shows. He will be used by me as a breeding animal."

The Poultry Yard.

Extra Attention Now.

At this season of the year fowls and chicks should be given a little extra attention. Their house and roosting quarters should be made comfortable by closing up cracks and crevices, and let what ventilation there is—and there should always be some—be above the fowls. Feed them liberally with good sound, nourishing food. A good plan two or three times each week is to take corn and heat it until it begins to brown, then take it off the stove and stir in a good piece of lard or meat-fat of any kind, and feed while warm, but not hot. Gather leaves

for future use and pack them away dry in barrels. You've no idea how many you can get in a barrel by getting in it and tramping them down. On real cold and stormy days see that the henhouse is clean; scatter some leaves around loosely in it, taking good care to shake them up so they will fly around, as they will be found to have settled compactly. Then scatter your grain among them, and the exercise the birds get hunting for the food thus provided will be very beneficial. This extra attention will prepare your flocks for winter by getting them in good condition before cold weather is a settled fact, and the food thereafter given during the winter will cause them to lay more eggs than if left to shift for themselves until cold weather reminds one of the humanity of extra provision, when it will be too late to make them profitable, as the feed will principally be necessary to keep up the required animal heat, etc. G. O. B.

New Breeds.

Farmers and others who hanker after "new breeds" of poultry can always find some one that can furnish such. Whether new breeds are a desirable acquisition or not depends upon a good many things. If I may be permitted to advance an individual opinion, I should say I think unless qualities more valuable, or in some way improved over breeds already established, new breeds are not especially needed, and really only are a benefit to parties interested in disposing of them. A few years since there was at the Buffalo, N. Y., poultry show a new breed shown of Partridge Cochins, with *pea combs*, much stress being laid on the pea comb. It was to produce a revolution among the Partridge Cochins, who are so unfortunate as to have the original single serrated comb. Examining them closely, in our mind we were satisfied they were produced by a cross on the Dark Brahma. Their shape plainly showed a loss of the characteristic Cochin form, and was decidedly Brahmaish. Just now there is quite a sensation, or would-be one, among a few poultry fanciers with what they are pleased to call *Rose-comb* Leghorns. Some three years ago some went so far as to advertise them as imported, but since a gentleman of the New England States went to Italy to import more of them, he found there were none there then and such were unknown there. Since his return no more imported stock has been advertised.

The changing of the comb of a breed does not certainly add any additional useful qualities, and in our opinion the magnificent comb is one of the characteristic features of the entire Spanish breed, whether they may be White or Brown Leghorns or White-face Black Spanish. Just as soon as they are bred with any other combs they are not true. The great claim is that the Rose-comb is not so subject to frost, etc. Some do not like leg-feathering on the Asiatics; others think it a protection in cold weather for thin feet and legs. It would be just as reasonable for the latter to want feathers on Leghorns for the same humane (?) reason, as for the advocates who desire Hamburg or Dominique combs on

Leghorns. It's too much of a bubble, and the idea will not work among the intelligent.

Farmers, don't be influenced by flashy "ads" and great promises of these new departures, for you can rest assured there are no new breeds that can excel the characteristic utility points in the long-established and time-proved true breeds, or even equal them. If you want fowls you can, if you are not already fully informed as to the characteristics of the breeds, readily get posted, and then purchase those of well-known breeders. This need not in any way be construed as an advertisement on our part, as we have no fowls of any kind to sell at present.

G. O. B.

Hints to Poultry Fanciers.

Now is the time to prepare to look to the interests of our poultry for the year 1882. The first thing is to make a choice of some breed or breeds. I would say to all, first take the kind that suits your own fancy, and in the end you will feel more satisfied than just merely to buy fowls on some other person's judgment, or because you see that some fluent writer says his kind is the best breed. Fowls are just like a great many other things—every person is not suited with the same kind; but I would say if you wish large fowls, or those best suited for dressed fowls, take the Asiatics every time.

But if you want fowls for general purposes, take the Leghorns, Hamburgs or Spanish, or some would prefer Dorkings, Polish, Houdans or Crevecoeurs. These last-named breeds are what we call constant layers; but for eggs alone there are no fowls in existence that can compete with Leghorns. They lay more eggs, consume less food, and for early, fast-growing spring friers they will out-travel any breed.

Perhaps at this time it would be in better place to say a little towards the care of fowls. There is no other class of stock on the farm, as a general rule, that is so sadly neglected as is the domestic fowl. Why neglect this great source of human sustenance in such a way? Perhaps some of my readers will hoot at the idea, but it is true that there are more fowls or poultry consumed in the United States than there is beef or pork. This looks like a big thing, but the statistics show that such is the case. Look at the consumption of eggs alone; it is almost as great as that of pork. Now is the time to clean and whitewash your roosts, and be sure and get ahead of all vermin, for they make their start in spring, and are more easily gotten rid of at the start than after they have your henhouses polluted. A good way to keep them from starting is to pour coal oil on your roosts and any other place about your henhouses where they are likely to make a start. Spring generally brings disease with it, and a good way to keep fowls healthy is to keep a lump of alum in their drinking-water; the sour from the alum, mixed with water, helps to tone up their systems and keep them in a healthy condition.

To make fowls healthy and lay well, a good way is to give a change of diet, say soft food in the forepart of the day and whole grain in the evening; and green food is very essential for the

health of fowls, and also necessary to insure good success in hatching. But every farmer ought to see to it and have good fowls on his farm, for the reason that it takes no more to feed good ones than it does to feed scrubs, and if he wants to sell he won't have one-half the trouble to sell blooded stock that is usually the case with common scrub stock. And I say that there is not any stock on a farm that will pay more interest on capital invested than will well-bred fowls.—*Cor. Journal of Agriculture.*

Killing and Dressing Poultry for Market.

A correspondent writes as follows in the *Indiana Farmer*:

"Almost every locality has its own system, but I may advert to a few facts on this subject. Poultry, when bled to death, is much whiter in flesh. I should advise the following plan as the best, causing instant death without pain or disfigurement: Open the beak of the fowl, then with a pointed and narrow knife make an incision at the back of the roof, which will divide the vertebrae and cause immediate death; after which hang the fowl up by the legs till the bleeding ceases, then rinse the beak out with vinegar and water. Fowls killed in this manner keep longer, and do not present the unsightly external marks as those killed by the ordinary system of wringing the neck. When the entrails are drawn immediately after death, and the fowl stuffed, as they do in France, with paper shavings or short cocoanut fibers to preserve their shape, they will keep much longer fresh. Some breeders cram their poultry before killing, to make them appear heavy. This is a most injudicious plan, as the undigested food soon enters into fermentation, and putrefaction takes place, as is evidenced by the quantity of greenish, putrid-looking fowls that are seen in the markets."

The Dairy.

How to Make Good Butter.

A correspondent of the *Chicago Inter-Ocean* writes:

In winter have a good, dry, warm place for your cows. Feed ground feed, ground corn and oats, mixed with bran or shorts, two parts of corn to one of the others, perhaps the best and cheapest food to produce a good quality, as well as quantity, of butter. Give the cows plenty of sweet, early cut timothy and clover hay. See that they have plenty of pure water—not ice water—but as warm as it is in the well, if possible. During the summer have plenty of tame pasture and pure water, and when pastures get short give a liberal feed of sweet corn, stalks and all.

Milk pails and pans should be thoroughly scalded every time before using. I prefer tin pails to wooden ones.

If you have nothing in a cellar in which to

set the milk, see that it is properly ventilated and do not have anything else in the cellar with the milk. The cellar should be thoroughly white-washed every spring and kept sweet and clean. If your cellar is damp get a dime's worth of unslaked lime every two or three weeks and scatter around the cellar. The lime takes the moisture from the cellar, also helps to keep it sweet. In hot weather, if you have them, use water vats containing enough water to come up around the pans or pails as deep as the milk is in the vessels. A temperature of 60 to 64 degrees will keep the milk sweet thirty-six hours.

Skimming must be done in proper season, if all else is neglected. The neglect to take off the cream at the proper time spoils more butter than anything else connected with its manufacture. You must watch your milk in hot weather and not let it thicken before the cream is taken off. Ordinarily the cream should be taken off in thirty-six hours after setting the milk. It never should stand over forty-eight hours, and it is sometimes necessary to take it off in twenty-four hours. If it stands over forty-eight hours it makes bitter butter. Milk should never be set in cold weather where it will chill. It injures the milk as much to chill as to keep it at too high a temperature in hot weather. Observe these directions closely.

Churn every day if possible. Cream should not be kept longer than forty-eight hours at most. It should be a little acid. Have the cream at a temperature of 58 to 60 degrees in summer, and 62 to 64 degrees in winter. Do not churn too quickly; twenty to thirty minutes is quick enough. Stop when the butter separates into small particles like shot. Now draw off the buttermilk, and wash with cold water or cold weak brine, until the water runs clear. Then gather and remove to the worker.

Work the salt thoroughly through the butter, about one ounce to the pound. After you have worked the salt thoroughly through the butter, set it away in a cool, clean place for twenty or twenty-four hours. Then work until the brine runs clear. Do not work too much; it makes the butter greasy.

Packing.—Get the best tubs you can; soak the tubs in brine twenty-four hours before using. Pack the butter closely to the sides and bottom of the tub; fill level to the top of the tub; put a clean bleached muslin cloth, saturated with brine, over the top; then sprinkle this with fine salt, and moisten with water so as to form a crust when it dries; then put on your cover and fasten down, and your butter is ready for market, and will bring creamery prices.

The time has come when we must either make fine butter or quit the business. Oleomargarine is now selling for more than poor butter, and has practically taken its place, and as it is made cheaper than we can afford to make butter, we must make something that will surpass it in flavor and quality. Don't hold your butter for higher prices; sell while it is sweet and has a good flavor.

The potato and root crops generally were greatly lessened by the excessively dry weather of August and September.

When Cows may be Kept at a Profit.

Dr. E. L. Sturtevant has this interesting and instructive article in the Springfield (Mass.) *Republican*:

In every herd of cows there are animals which differ widely among themselves in their adaptability for profit. Each animal has a different digestive power, different taste, different aptitudes, from every other animal. In one animal increase of food may result in the laying on of flesh rather than in increase of quantity of milk yield—or, vice versa, one animal may keep up a uniform yield of milk under a considerable change of food, while another animal shall respond in milk yield to slight changes in food. The owner who carefully studies the aptitude of each cow in his herd will usually be able to point out such cows as can be kept profitably on coarse fodders and little grain, and such other cows as can more profitably be forced by high feeding into large yield of milk. As there exists this individual difference between cows in utilizing such food as they obtain, it follows that as a herd is usually constituted some cows are kept at a profit, and certain other cows at a diminished profit, or perhaps at a loss.

In the fall season, while the farmer is preparing for the winter, it is well to consider the relation between the food stored and the cattle kept, and carefully figure whether the season's crops are sufficient, or more than sufficient, to maintain the live-stock already possessed. It is also well to consider whether certain crops cannot be more profitably sold outright for cash than fed on the farm, and whether, in order to do this, some of the live-stock had not better be sold before winter closes in.

These two ideas—viz.: the differences that exist between individual animals in economy of food and in product and the changing relations between the values of feeding crops and the animal products—should lead the farmer to a careful study and thought in the autumn, and will usually justify the disposal of certain animals that do not respond profitably to the winter feeding, and such exist in the majority of herds. A milch cow weighing 1,000 pounds is generally calculated to require for her support and profit 3 per cent. of her live weight daily in food, or 80 pounds of hay as its equivalent. As in this region the winter may be considered as of six months' duration, this means two and three-quarter tons of hay. In the six months' pasturing it is difficult to assign a representative value, but let us, keeping on the safe side, for the sake of even figures, calculate the cost of the yearly keep of a cow at three tons of hay. Now, when hay is at a certain cost—that is, possesses a certain cash value—it is easy to figure out the quantity of milk a cow has to annually produce in order, at a given price, to cover the value of the food; thus:

A cow must yield annually to equal the value of three tons of hay consumed:

When hay is worth	Quarts at 2 cts.	Quarts at 3 cts.
\$10 a ton.....	1,500	1,000
15 ".....	2,250	1,500
20 ".....	3,000	2,000
25 ".....	3,750	2,500
30 ".....	4,500	3,000

According to the most recent statistics available, those for 1879, the average value of hay in Massachusetts is \$16 a ton. In suburban localities hay is frequently sold at \$30 a ton. In New York State the average price is \$9.79 per ton. The average price of milk, as deducted from the cheese factory returns of New York State, is about 2½ cents a quart; as paid to the farmer by the milk contractors for city supply about Boston, from 3 to 3½ cents a quart.

We thus have presented to us the question of relations. A cow which consumes three tons of hay a year must give, on the average, in New York State, \$29.37 worth of milk, or 1,260 quarts, in order to cover the value of her food. In suburban Massachusetts, with hay at \$20, the same cow must yield 2,000 quarts at 3 cents in order to cover the value of her food. Now, in New York State the average yield per cow is calculated to not exceed 1,300 quarts, while the yield of good herds is placed at 1,800 quarts. Another deduction, of value to the suburban farmer especially, is that if through the individual aptitude of the cow the 2,000 quarts required to pay for the hay at \$20 per ton can be obtained through the use of coarser fodders or changed feed equivalent to \$10 a ton for hay, then the superior skill of the chooser and feeder of the cow is equivalent to 1,000 quarts of extra yield.

These figures are but rough illustrations of certain conditions which appertain to dairy husbandry, the methods under which competition and low prices of product are to be met, and the value of intelligent calculation to the farmer.

There are certain facts which in this connection should be well apprehended: 1. That breed is superior to feed; that is, that the animal the fodder is fed out to is of more consequence, under conditions of good farming, than the money value of the food. Feed does not produce milk in the dry cow; high feeding cannot force a scant milker by inheritance into a large milker; the cow of milking habit and strong digestive power can utilize unsalable fodder, and give satisfactory and profitable flow under circumstances when the high value of salable fodder cannot justify feeding such material with the hope of profit. Hence: 2. Whether we shall feed highly, feed food of high or low value, feed for maintenance or for milk, is a question to be determined by the character of the animal and the relation of values. 3. The cow of profitable aptitudes is the one to keep; the cow of unprofitable aptitudes should be sold off at once, and every herd contains usually more than one, and thus the herd shall be in a condition for the owner to secure profit by studying the value relations between the various unmarketable products of his farm, the various purchasable foods, and the salable products of his growth.

The failure of the crops throughout large regions of our country means high prices this winter for hay, corn, bran, and other feeding articles, and hence the pertinency of this line of thought at the present time. Cattle food will undoubtedly be at a high price; the sale value of milk will probably not be higher than in the past. Whether to feed to the cow and sell the milk, whether to feed coarse fodders, obtain less milk; but at a profit, and sell hay and grain; whether to

keep the herd intact or to sell off the poorer cows; whether to meet the present conditions through changed practices—are questions each individual farmer must think out for himself, but the subject will well repay careful thought.

Don't Let the Cows go Dry.

A long even season of milk is absolutely necessary to be a profitable one. There is nothing that the dairyman needs more exhortation upon than that of giving a full ration to his herd at all times during the milking season.

There is less excuse for feeding a good milch cow stingily than any other farm animal. She does not ask any credit; she makes prompt daily payment; and her product is a cash article. If he has not the food at hand, prudence and good judgement, as well as humanity, requires him to furnish her full rations at all times, without regard to a favorable or an unfavorable season. We always counsel dairymen to make an earnest effort to produce all the food for their herds upon their own farms, but the first principle of profitable dairying requires that they give abundant food to keep up an even flow of milk, whether they produce or purchase the food.—*National Live-Stock Journal*.

Horticulture.

Inducing Regular Bearing.

Mr. F. K. Phoenix writes as follows to the *Country Gentleman*:

"How to make apple and other fruit trees bear the 'off years' is a question involving millions of dollars annual revenue now lost to American fruit-growers. Last year apples here were so plenty that, aside from what growers, their friends and stock consumed, there was from most orchards no sale and no profit. Not only are the fruit supply, crop and price in these off years and all years involved, but the health, and to a great extent the very life, of our bearing trees. Every close observer must have noticed the weakening of fruit trees from overbearing and their increased liability to injury from cold in severe winters, such as somehow, under present arrangements, seem occasionally to follow excessive fruit crops or seasons. For instance, last year's overcrop of fruit was followed by one of the longest and severest winters, causing in some sections, as in portions of Ohio, Indiana and the Northwest, unusual destruction to bearing orchards. Thus the law or succession of nature often is—first, mild winters; second, favorable springs; third, excessive fruit crops; fourth, low prices for fruit; fifth, weakened bearing trees; and sixth, permanent damage to overbearing trees from winter cold.

"Where and how had we best seek to correct this present manifestly unprofitable order of things? Some will argue that apple trees did not, could not bear this year, because the fruit-blossom buds formed last summer were weakened (incapacitated) by the severe cold last

winter. This sometimes happens, and I took this view of the situation here last spring, until observations the past summer banished it. I do not remember a more favorable spring than the last one was here for fruit bloom and setting—not one late frost or chilling wind storm throughout. What followed? In this section, so far as I have noticed, wherever there was bloom, even our most tender annual bearing varieties of apple, Sweet Bough, Rhode Island Greening, etc., with Siberian crabs, wild crabs, seedling or natural apple trees, and all grafted varieties that had not exhausted themselves by overbearing in 1880, gave this year more or less fruit. Had only half our orchard trees borne, or not borne so full last year, I believe we should have had plenty of apples this fall. All things considered, I must think these excessive fruit crops, with little or no fruit in intervening years, unnatural or artificial, and hence to a great extent remediable.

"What can we do to get more fruit in off years? I respectfully suggest, first, to seek out and cultivate more uniform, moderate, annual bearing sorts. What profit is there in these excessive, biennially bearing varieties and crops, with comparative starvation between? If, to secure more regular crops, we must grow from the seed steadier, annual bearing varieties, the quicker that is taken hold of and accomplished the better, and this off year is the very time to save and sow seed for that purpose. Second, as far as possible secure scions for grafting, also buds for budding, from trees that have borne well this off year. Like begets like is the guide, the unfailing light out of enveloping darkness. Applying this rule, I must always and greatly prefer scions and buds from healthy, fruitful trees. In my experience I find, with a great cloud of unimpeachable witnesses (practical farmer orchardists here in southeastern Wisconsin) to back me, that scions from healthy, fruitful bearing trees not only grow off as well, but of the two grow quicker and better than those cut from nursery trees, especially where propagated, generation after generation, farther and farther from a bearing condition. If like begets like, trees that bear well this off year will be most likely to bear in other off years. Thirdly, much may be done, even with the present list of sorts, by improved modes of pruning and cultivation. 'Prune in winter for growth, in summer for fruit,' is advised. Why not, then, prune in autumn to lessen or temper excessive fruit crops? July, August, and even early in September, are, I believe, the best months for pruning. Another thing we know: the number of fruit buds and blooms is lessened in proportion to the quantity of bearing wood removed in pruning. Suppose, then, we choose off years wherein to prune excessive biennial bearers, and whenever otherwise desirable or practicable; is it not probable that heavy fall pruning in off years would tend to moderate the excessive biennial crops of fruit years and promote bearing in off years? It would seem that it must have been tried already many times, and without any such desirable result. Theoretically I must nevertheless think that there is some season of the year, or some age, older or younger, in the life of orchard trees, when heavy late

summer or autumn pruning in an off year would be not only safe in itself, but tend powerfully to promote wood growth the next season, as opposed to excessive fruit production. In these great fruit years fruit is produced at the expense of wood growth. How can we best permanently reverse this, and promote in such fruit years more wood and less fruit growth?

"If the experiment of heavy late pruning is to be tested this fall, I suggest using great care, painting the scars and stubs over and over, against a possible succeeding hard winter. One other thing: hardy, iron-clad varieties will endure severe fall pruning and hard winters far better than tender varieties."

Ornamental Planting.

In an address on this topic before the American Association of Nurserymen, Mr. Wm. C. Barry of Rochester, N. Y., made the following suggestions on

Borders of Shrubs.

Many gardens are too much exposed. It has recently become fashionable to remove fences, and grounds thus opened might as well be public property. There is no seclusion or privacy, and every movement about the garden can be observed. One of the charms of a garden is the air of seclusion which should prevail there. To secure that privacy which all who are fond of gardening certainly desire, we would suggest the planting of a border inside the fence. This border can be varied in depth, according to the size of the garden. It should be a little higher than the lawn, and the outer line should consist of graceful curves. In this border can be planted a variety of shrubs, dwarf conifers, hardy plants, etc., but no trees. The shrubs and conifers should be planted irregularly, from three to four feet apart—the taller ones nearest the fence, and the dwarf subjects near the margin. For a border six feet in depth I would suggest two rows of shrubs, the first consisting of the larger growing ones, like Weigela, Deutzia, Forsythia, Japan Quince, Viburnum, Cornus Variegata, Red Dogwood, Tartarian Honeysuckle, Lance-leaved Spiraea, Syringa, Althaea, Calycanthus, Plum-leaved Spiraea, Barberry, Dwarf Spruce, Dwarf Pine and Juniper.

For the second row, Deutzia gracilis, Mezereum Pink, Dwarf and Golden-leaved Syringa, Tree Pæonies, Dwarf Double Flowering, Almond, Prunus triloba, Dwarf Weigela, Fortune's Dwarf White Spiraea, Plumed Hydrangea, Spiraea Thumbergi, Juniper Squamata and Tamarisk-leaved Juniper. The outer edge can be formed of Funkias, Dwarf Phlox, Japan Spiraea, Evergreen Candy-tuft, Perennial Flax, Forget-me-not, Lungwort, Soapwort, Sea Pink, Sweet Violets.

Between the shrubs, near the front may be planted lilies, tall phlox, and occasionally hollyhocks.

All the shrubs and plants which I have named are perfectly hardy, and if properly pruned can be kept of moderate size and good form. This

selection will furnish a constant succession of bloom from early spring till late in the autumn.

The border should be lightly forked every autumn, and all the plants contained in it will be much benefited thereby.

In small gardens this border may be omitted altogether, and those who desire their gardens more exposed can instead of a fence plant a few shrubs irregularly—allowing the grass to grow quite closely around them. When fences have been removed along an entire street or avenue, the lines of each lot may be marked by planting shrubs in this way, relieving the lawn of that nakedness which would otherwise prevail.

Shrubs grown in a cultivated border thrive much better than they do grown in grass, and the border is therefore preferable.

Borders like the one above referred to may be formed at the sides of the garden, concealing division fences, if there be any. In these borders a great many varieties of shrubs may be employed, which during the summer will afford an unlimited amount of pleasure. In the smallest gardens this mode of planting may be adopted, leaving the centre of the lawn open, without a single tree or shrub. Fine effects may be produced if neighbors would unite and form a double border instead of fences, planting the taller shrubs at the center, and the smaller ones at the outside, varying the sky outline by the introduction of a tree at intervals. In these side borders it is always well to employ shrubs that will not become too large, though any shrub, by proper pruning, can be kept small. This is the great advantage we have in dealing with shrubs, and when we find that they become so large as to conceal too much, they can easily be cut back. While a certain amount of privacy is very desirable, it is not pleasant to be too much confined, and in arranging these borders this point must be kept in view.

In medium sized places a few trees may be planted on the lawn. These should have a position at the side, rather than in front, as the view from the windows of the house should never be interfered with. Often only a single tree can be admitted—perhaps a handsome Cut-leaved Birch, Oak-leaved Mountain Ash, Purple Beech, Cut-leaved Beech, Youngs' Weeping Birch, or Weeping Cherry. All of these form beautiful specimens, and if a little care is bestowed upon them, each one when it attains age will be a picture in itself, always attractive and pleasing. Sometimes shade is required, in which case it is necessary to plant large growing trees within twenty feet of the house. I know of no tree which affords shade so quickly and withal is so handsome, as the superb Elm. Groups of dwarf conifers may be introduced on lawns, such as the dwarf Norway Spruce, the lovely Juniper, compact Arbor Vite, Tamarisk-leaved Juniper, Dwarf Pine and Golden Yew. All of these are hardy, and when planted three together irregularly, or in the shape of a triangle, from three to five feet apart, will in time look pretty. In small grounds it is difficult without seeing them to say where these groups should be located. The situation must be studied, and nature imitated as far as possible.

Thus far I have not referred to flower-beds in lawns. It is a common practice to make beds of

geraniums in the centre of a lawn. If the style of gardening which I have suggested be carried out, a flower-bed of this kind would be out of place.

Geraniums and other bedding plants may be employed to advantage close to the house, and can be cultivated either in beds or in borders. A fine border of mixed plants, consisting of Tea Roses, Heliotrope, Double Feverfew with Coleus and Centaureas intermingled, presents a beautiful appearance, and is very useful for cut flowers. Being near the house they are easily accessible, and do not detract from the beauty of a lawn. The edges of groups and borders of shrubs are beautified by the use of such plants. We cannot admire great masses of geraniums, but employed as they should be, they enliven a garden, and may be considered indispensable.

Wintering Geraniums.

Geraniums properly managed may be almost as easily kept as potatoes. Not by hanging them up, although this way sometimes succeeds in a very cool cellar that never freezes, and the air of which is not too wet nor too dry—perhaps one in a hundred. The mode we have long adopted with entire success is to take up the plants as soon in autumn as it is unsafe to leave them out, trim off nearly all the tops, leaving a few buds and small leaves, and then plant them in boxes about two feet square and eight inches deep, using damp old sawdust to plant them in, packing it solid and filling carefully all the interstices. If put in loosely it will settle away and the roots become dry. A dozen or twenty may be placed in one box of the size we have described. The size of the box is a matter of no importance, only for convenience in handling. Place the boxes square and close against the largest and lightest window in the cellar, where the plants can have good light. A small dark window will hardly answer. The boxes may stand on a step-ladder, goods box, or flower-stand, close up to the glass. The sawdust need not be wet, but only slightly damp, and will not require wetting more than two or three times before spring, even in a warm and dry cellar. In such a cellar the plants will make some growth; in a cool apartment they will remain nearly dormant. In spring, start them in a hot-bed and set out in a well manured bed as soon as the weather will safely admit, and they will bloom all through the season. If there are only a few and there is no hot-bed, they may be started in pots in the house.—*Ex.*

Care of House Plants.

Bougardias, heliotropes, poinsettias, begonias, and other tender plants that feel the cold first, have, ere this, been placed either under temporary shelter in cool weather, or removed permanently to their winter-quarters. Those that require potting or repotting should have immediate attention, and the drainage of pots should always be examined on removal from the outside. Plants infested with worms should have

a thorough watering of weak, clear lime water—two ounces of lime to a gallon of water is, after being allowed to settle, strong enough. Most plants are benefitted by lime-water—the most patent exceptions are azalias, rhododendrons, and ericaceae generally. Tie and stake neatly all plants that require such treatment. The more hardy greenhouse plants, such as geraniums, azaleas, camellias, carnations, etc., may stand outside until the end of September: but it is always best to be on the safe side, and plants suffer less from being too hot than too cold.

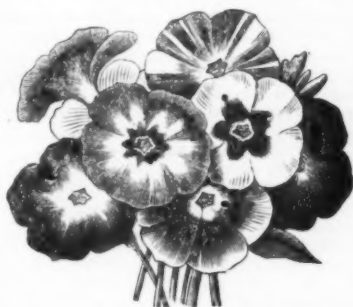
Seed Sowing. Many seeds for winter and spring can be sown at once in the greenhouse and window, such as mignonette, primulas, cinerarias, calceolarias, sweet alyssum, nemophila, geraniums, smilax, and any of the pretty early-flowering annuals.

Bulbs for winter flowering should be potted at once. Hyacinths first, as they evaporate quicker than the harder and closer formed bulbs.

Pot firmly in good soil, bury in ashes, covering the pots from six to eight inches deep with ashes or sand for six to eight weeks before taking inside; other bulbs, such as tulips, crocus, snowdrops, narcissus, and lillies, do not require to be buried so deeply. Bulbs intended for cultivation in water should be placed in glasses at once, and put in a cold, dark cellar for two months at least. If the temperature should get as low as forty degrees, or even thirty-five, there is no fear of damage.—*American Garden.*

Phlox Drummondii.

The Phlox Drummondii, for a brilliant mass of colors and a constant display, is not excelled by any other annual or perennial that we are acquainted with. It has every desirable quality for this purpose. The colors range from the purest white to the deepest blood purple or



crimson. Seed may be sown in the open ground or in hot-bed or cold-frame. For a cheap ribbon bed there is nothing so good as the different colors of Phlox. A good ribbon bed of the Phlox is a dazzling sight. Set the plants about one foot apart. In selecting plants for a ribbon bed get good contrasts of color, as white, scarlet, rose and blue. Vick's New Double White is an acquisition; excellent for small bouquets; flowers like miniature roses.

Two Fine Evergreen Trees.

The White Spruce (*Abies alba*) is a hardy little tree of compact habit of growth, regular conical outline and soft glaucous green color; and although the branches may have a stiff and formal look, the general outline is so perfect that one loses sight of this imperfection. Its greatest beauty is seen in the young tree, for after having arrived at mature age the foliage becomes deficient, and the effect is lost in a measure.

The White Spruce, says Hoopes in his "Book of Evergreens," is a native of the northern portion of the United States, Canada, etc., extending very far north to the extreme confines of vegetation, and is generally found along the cold mountain ranges in damp situations or swampy ground. It grows from twenty-five to fifty feet in height, according to the nature of the soil and the latitude. The charming color of this tree, and particularly of young plants, has made it a great favorite with arboriculturists, and for ornamental purposes it is very far superior to the Black Spruce; indeed, the latter species is not usually considered of sufficient excellence to be classed among the ornamental trees. In a group of the darker foliaged evergreens, a fine plant of *Abies alba* placed in the foreground will always excite admiration from the lively contrast exhibited, and when we take into consideration its perfect hardiness, we have no hesitation in pronouncing it one of our most desirable species.

Juniperus venusta (see cut on opposite page) is a rapid grower, of erect habit and fine silvery foliage, very ornamental and perfectly hardy.—It is said by Messrs. Ellwanger & Barry, to whom we are indebted for these cuts, that it is a gem in any garden.

The Chinese Hibiscus.

Hibiscus rosa sinensis is a magnificent greenhouse shrub, attaining a height of over twelve feet, and belonging to the natural order Malvaceæ. Its native country is a matter of doubt, but it is supposed to be a native of the East Indies, as it was introduced thence in 1731. The leaves are of a bright glossy-green color, smooth, ovate, pointed and coarsely dentate at the end, and the flowers, which are large, are of a dark red color, often exceeding four inches in diameter. The flowers are produced on the young growth during the entire summer months, and if the plant is grown during the winter months in a warm, light and sunny situation, it will also flower freely during the entire winter season.



White Spruce.

As a bedding-plant, says a correspondent of *Vick's Magazine*, this Hibiscus is also eminently deserving of attention, as it succeeds admirably bedded out during our hot, dry, sunny summer



weather. For this purpose two or three-year-old plants are the most suitable, and they should be well cut in when taken up in the fall. Care

**Juniperus Venusta.**

should also be taken to keep them as dwarf as possible when used for bedding purposes. As single specimens in the mixed border this Hibiscus will also prove to be peculiarly attractive. Large specimens can be planted or plunged out on the lawn during the summer months, where, with a little care and attention as to watering, etc., they will be found to be of great value for lawn decoration.

The Chinese Hibiscus can be easily propagated by cuttings, and if the young plants are repotted as often as necessary, and liberally treated, fine specimens will be obtained in a few years. A compost composed of two-thirds well-rotted sods, one-third well-rotted manure, and a good sprinkling of bone-dust will be found to be most suitable. If a warm situation, say about 50°, can be given it during the winter months, it should be kept rather moist, but when placed in cooler situations do not give much water.

With a little care and attention the plants intended for bedding purposes can be wintered under the stage in the greenhouse, always choosing a warm and dry situation. During the season of growth an occasional watering of

liquid-manure will be found to be of benefit to them.

When grown in the greenhouse this Hibiscus is very subject to the green-fly. A slight fumigation of tobacco will soon destroy them, however, while if grown in the window-garden, Cole's insect destroyer applied with an atomizer will be found to be a certain remedy. In order to obtain the very best results, do not allow the plants to become pot-bound, and, in the event of the plants becoming too large for the pots, turn them out of the pots, reduce the ball of earth and roots about one-half, trim the plants back severely, and re-pot in the same size pot, using fresh compost. The best time for this operation is about the middle of May. Water should be carefully given until the plants become well established.

Seeds Best Sown in the Autumn.

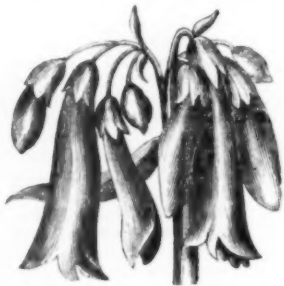
Most people have observed, no doubt, that self-sown seeds, that is, seeds that have dropped from the growing plants of the previous season, sometimes produce the strongest and most healthy plants that bloom the most freely. This is true of several kinds, and particularly those that suffer under exposure to our midsummer suns.—The reason is that self-sown seeds get a very healthy growth in the spring, vegetating as soon as frost is gone, and are good-sized plants by the time we usually put seeds in the ground, even if they do not start in the fall. They thus mature and flower during the cool weather of spring. The Clarkias and Nemophilas and Annual Larkspurs are noted examples. There are also several varieties of hardy annals that do well with spring sowing that will bear autumn sowing in the open ground, and reward us with early spring flowers. Sweet Alyssum and White Candytuft will give us abundance of white for early cutting, if sown in the autumn.

In a sandy soil the Portulaca may be sown in autumn with good success. Seeds of biennials and perennials, if sown early enough to produce strong little plants, will flower the next summer; Pansies and Chinese Pinks, though they bloom the first summer if sown in the spring, will make much stronger plants and flower more freely and earlier if young plants are grown in the autumn.—*Vick's Floral Guide.*

By calling attention to the "Farmer" of such appreciative cultivators as will be likely to be interested, its circulation could readily be doubled, to the advantage of readers and publishers alike.

The Pentstemon.

The Pentstemon, says Vick, is one of the best of the perennial border plants. The very pretty long-tubed flowers grow in panicles, and are



purple, blue, scarlet, rose and white. Seeds may be sown in May, in a cool, shady place, or under glass. Flowers of different varieties present a great difference in appearance, some being very open and others tubular.

Vegetable Garden.—November.

Some one advertises for a gardener just now "who will undertake to keep up a full supply of vegetables." The man who can do that in such a season as we have just passed through can take a full supply of ice from an unfrozen pond. Our utter helplessness to keep up full supplies of anything in the gardening line has been well exemplified of late. Old settlers can remember no such drought. One thing I note: crops that were manured with stable manure turned out better than those that had "fertilizer" alone. Late potatoes were especially noticeable in this respect.

If the storing of roots has not already been begun, there is no time to lose. Last fall mine were piled entirely above ground, and kept finely. Carrots were covered with coal ashes, which has the advantage of lightness; ventilate with tile or wisps of straw. Parsnips, salsify and leeks keep well in trenches drained and lightly covered. Perhaps the less said about celery the better; I presume there is not much of it to cover. Mine is exceedingly slim and poor. I was amused to read in a farming paper lately that "Turnips came up well, but having been rather thickly sown few will attain a marketable size;" which goes to show that in some places turnips are not regarded as a crop worthy of being thinned and cultivated like other root crops, which is certainly a mistake.

Lima bean poles should be stowed away, and the whole garden made tidy. These poles need frequent renewal, which reminds me that they would last longer by having the ends charred over a slow fire, and I don't know that tarring them would have any bad effect on the crop. Both plans are worthy of trial.

Theory and Practice.—"Theory," says Webster, "is a deduction from established truths." Certain familiar laws in plant-growth and devel-

opment become *established* truths to us because founded on centuries of practice and observation. Men so ignorant as to be incapable of theorizing may yet become, in the more laborious work of the garden, on that very account "all the more intensely practical." All intelligent men combine theory with practice, whether they are conscious of it or not. This being able to give a reason for our every operation is one of the charms of our calling, and lifts us a step above mere imitators, who, despising theory, graduate into "tree butchers" and botches generally. When intelligent men differ in their practice, with no very marked difference in results, we naturally chime in with the one who works most in accordance with our ideas of sound theory. Thus, when I read some years ago in a leading agricultural journal that, of two large and *equally* successfully tomato growers, one said *pinch* the plants in the frame and the other said *don't*, I did not alter my old "deduction" that such a tender plant as the tomato should receive no check from the time the seed is sown until at least the fruit has set. Henderson on this point remarks: "Some attach great importance to topping the leading shoot of the tomato, so that it branches, arguing that by this means we get an earlier and heavier crop. All our experience shows that no benefit whatever is derived from the practice." But when I am now assured by one whose opinion I value that there is in reality a considerable difference in point of earliness in favor of the pinching process, I am more than willing to give it a fair trial. This, I believe, can only be done by planting in alternate rows and giving, in all other respects, equally fair treatment. There may be something in the matter of "age," though I long since changed my date of sowing from the first to the end of February, without being aware that I was a loser by it. This, as I already remarked, can only be determined by observing alternate plants or rows. The pinching becomes a necessity when plants are sown so early as the first of February. The gain of even a week in earliness is of great importance to the market gardener, and the subject is therefore worthy of a thorough discussion.

I have complained a good deal about bad garden seeds, but there is something to be said on the other side. Because it has been next to impossible to get our fall crops to germinate satisfactorily, it does not follow that the seeds were necessarily bad. My seeds of cabbage, spinach, lettuce, kale, etc., were quite good, and yet repeated sowings were necessary on account of the heat and drought.

Plowing, drawing manure, gathering leaves and securing the root crops, together with ditching and draining, are the leading features of the month.

JOHN WATSON.

The Use of Glass in Gardening for the Market.—No. 3.

In the warmest corner of the greenhouse, about the last of February, sow in boxes thickly seed of Black Pekin and New York Improved egg plants. These seed boxes we make of soap

and starch boxes, sawn in two so as to make of each two shallow boxes. As soon as these make the first rough leaf, transplant them into similar boxes, about an inch apart, and set up on temporary shelves near the glass. As soon as the tomato plants are out of the house, pot the egg plants into three-inch pots and put on the side benches, when they are to be carefully tended until the tomato plants are transferred to the open ground. Then knock them out of the pots with the balls of earth, and plant them into the frames, two plants to each sash. Put on the glass, and give air only by tilting up the sash at the back. Uncover during warm rains, but keep the sashes close over them at night until the weather is thoroughly hot, say middle of June. By this time they ought to be crowding against the glass and getting full of bloom and young fruit, but the foliage will bear a little crowding at night, and it will not do to expose them until the nights are warm, as the egg plant is extremely tender and cannot be hardened to a low temperature as the tomato can. When the nights are finally warm the glass can be dispensed with. By this mode of treatment I have put egg plants in the market with the Norfolk crop, at four dollars a basket.

To make use of our greenhouses during fall and early winter, before the tomato crop is started we should make a sowing of lettuce seed (Black-Seed, Simpson or Boston Market) about September 1st. By the last of the month, or early in October, plant them on the benches of the greenhouse, about six inches apart. Give plenty of air while the weather is mild, and attend to watering carefully, and fumigate with tobacco stems lightly once a month to keep off the green aphid. This crop should be ready to cut out by December 1st. This first crop will need little or no fire heat, a night temperature of 35° to 40° being sufficient for lettuce. Re-plant as fast as cut out with plants from outside, and a second crop can be cut by the time the tomato plants need the house. The soil on the benches should be dressed with fine manure between crops, and should be entirely renewed once a year. These two crops of lettuce ought to more than pay the entire cost of running the greenhouse through the winter, even at the low prices which it has commanded of late years. For early forcing I much prefer the Simpson lettuce to any of the heading sorts, on account of its quick growth. Head lettuce usually sells higher per head, but I always got more money out of glass in Simpson lettuce during the year than in head lettuce, because it gave me more crops. During the coming winter the lettuce crop is going to be a much more profitable one, in my opinion, than it has been for years past, owing to the unusual scarcity of other salad crops in the open ground.

In our next we propose to suggest further profitable uses for the frames.

W. F. MASSEY.

Hampton Gardens, October 20, 1881.

It will be to the advantage of our readers to double our subscription list for '82. Do it, and see what an improvement there will be in the old "Farmer."

The Cabbage Crop.

Messrs. Editors American Farmer:

We might perhaps with equal propriety call it "The Cabbage Famine," since we are reduced to such an extremity that we are obliged to send to New England [even to Germany—Eds.] for this much-used but now expensive vegetable. Those accustomed to visit this county in autumn have noted the large fields of cabbages to be seen on every side, and wondered where a market could be found for them all. Now all is changed; nothing but a few brown skeletons of leaf and stalk are to be seen; the owners of large fields of cabbages unable to obtain enough for a dish of slaw. Never in the memory of the oldest inhabitant was such a thing heard of before. The roads leading from Anne Arundel county into Baltimore are usually lined with teams at this season of the year hauling cabbages and bringing back manure. A load of cabbage going into the city now attracts almost as much attention as a circus.

But some may ask, Why this scarcity? Mainly on account of the cabbage-worm. Heretofore we have been able to keep most of the cabbage enemies in check, but this year a new pest made its appearance in the shape of a green-and-white striped worm, the larvæ of a brown butterfly something similar to the well-known white European butterfly hitherto so troublesome. If this latter is the European butterfly we can beat the Old World all hollow, as we usually do in everything else. The green worm produced by the white butterfly is slow in its work of destruction, and can usually be kept in check by the free use of unslaked oyster-shell lime and by hand-picking, but the striped worm comes in such numbers and does its work so quickly as to defy all attempts to stop its ravages. Hundreds gather upon one head and bore to its very centre, leaving nothing but a few stumps and stems of leaves. I learn that this pest is not confined to this State alone, but has destroyed the crop pretty generally throughout the country.

Most of the cabbages coming to Baltimore at present are from Boston and other points in New England, some coming all the way from Maine, and bringing at wholesale from fifteen to twenty dollars per hundred. This condition of affairs cannot but occasion alarm among the growers and consumers of cabbage, and he who discovers a remedy for the pest will confer a lasting benefit upon the whole country. Anne Arundel county without her usual fall crop of cabbages is stripped of one of her chief sources of wealth. The present outlook is far from encouraging. Few will have the courage to plant next year except for early crops, which seem to be free from disturbance, the striped worm this past season not making its appearance until September. I see that Pyrethrum, or Persian insect powder, is strongly recommended by some as effective in destroying the green worm. Have any of your many readers given it a fair trial? If so we would be glad to hear from them through your columns.

At present writing the ground is still very dry, though we are beginning to get used to that sort of thing nowadays. The past summer,

though dry and unfavorable to market farmers, has been quite a profitable one, however, produce bringing twice as much as in plentiful years, without the usual expense of handling and hauling a full crop. R. S. COLE.

Harman's, A. A. Co., Md., Oct. 19, 1881.

Italian Onions.

The cultivation of onions in our Southern States increases rapidly in importance, so that they form already a profitable crop, which will soon come in active competition with the famous Bermuda onions in our Northern markets. The climate and soil of Florida do not differ so much from those of the Bermuda Islands as not to make it highly probable that onions can be grown here as large and good as there, or as in Mexico.

The Italian mode of cultivation consists in sowing the seed in the fall, transplanting the young bulbs about four weeks later, and wintering in the open ground, so that they may start and grow with the earliest spring. Our own cultivators have adopted a similar plan. One of the most extensive onion-growers of Florida writes: "A rich, moist soil is best. The seed may be planted from September till last of January, but I would recommend October and November as the best time to plant, provided good, fresh seed can be secured. This, however, is the chief difficulty. The seed has to be imported yearly from the south of Europe, and, unless of best quality, will not retain its vitality more than one season, hence the almost impossibility of getting good seed early. The early planting however, makes a firmer, more solid, and more salable bulb than the later and quicker growth. Plant in drills, six inches apart, and when of sufficient size, transplant into well-trenched ground, in rows one foot apart, four inches in a row. Roll ground after planting. Keep the soil well stirred between rows, but not deep, and keep earth well away from the plants, as the bulbs should be grown above-ground.

In some of our Southern States, the Wethersfield, Danvers, and other Northern market varieties have been grown successfully, but, as a rule, the Italian kinds raised from imported seed have proved more satisfactory.

Nearly all the varieties grown in Italy, Southern France, and Algiers originated in Tripoli, North Africa, where the onion is held in higher esteem than any other vegetable, and where it has been cultivated since the earliest periods of historical record. To this day, macaroni, bread, and onions form the principal food of the poorer classes of Italy. The nomenclature of the most popular varieties is mostly derived from the season of the ripening of the bulbs.

Marzajola (March onion) ripens earliest, is white, thin-skinned, of medium size, and valued principally for its earliness.

Maggiajola (May onion) ripens next; also white, but larger, and used extensively for pickling.

Agostajola (August onion) is the largest and heaviest, and varies much in shape and color.

The bulbs grow to an almost incredible size, and produce three to four stalks of sometimes five to six feet in height. *Giant Rocca*, *Giant White Italian* and *Red Tripoli*, the celebrated *Bermuda Onion*, belong to this class.—*American Garden*.

Cut-worms; Natural History, Remedies, etc.

Every farmer and gardener knows from sad experience something about cut-worms. Many of the farm crops suffer very materially, and not infrequently whole fields of Indian corn are destroyed by the countless thousands of these dreaded pests. No farmer who has followed the business long enough to be entitled to the name, but has had woeful experiences with cut-worms, and he has been fortunate indeed if at times he has not been compelled to abandon a field of corn, giving over the whole to the greedy worms.

And then in the garden, who has not found, morning after morning, that some miserable pest was cutting off his young cabbages, tomatoes, lettuce, and other plants, which were unfortunate enough to suit the taste of this in nowise dainty worm? In the flower garden, petunias, pansies, verbenas, and balsams go down to death before this destroyer. It is no respecter of rank; the patrician of the flower-border falls, as well as the plebeian of the vegetable garden.

By a little foresight we may very greatly reduce, if not entirely prevent, the destruction by cut-worms. This work of destruction can be better understood after studying

The Natural History of Cut-worms.

Although I have thus far spoken of cut-worms as if they were all of one species, the fact is, there are many species having widely different habits. Some live in the ground and barely come to the surface to cut off the young plant, others come out of the ground and attack the plants at the height of an inch or so, while still others climb trees and eat the tender buds. However, all are sufficiently alike in general appearance and transformations to be spoken of as a whole in this article. In general the worms may be described as smooth, greasy looking, black or blackish worms more or less mottled with white. When disturbed they have the habit of curling up to one side for a moment, but they soon try to burrow into the ground again. They possess powerful jaws, which they use in cutting off the plants, afterwards dragging them partly into their hole, where they feast unmolested. After reaching maturity the worms burrow deeply into the ground, where they undergo their transformations, finally appearing as a perfect winged insect. This perfect insect is a night-flying moth or "miller," of an ashen or brownish-gray color. They are given to visiting lighted rooms in the summer, much to the disgust of the occupants. In the latter part of the summer the "millers" lay eggs on or about the plants which they infest, and then die. The eggs soon hatch into very small worms, which immediately begin feeding upon the plants about them. During the fall months the young worms eat and grow, and by winter are about half grown; they then go deeper

into the ground, or get under rubbish, and there pass the winter. Upon the return of warm weather in spring, such of the worms as survived the winter come to the surface, and now having their appetites sharpened by their long fast, they attack whatever comes in their way. If they happen to appear in the clover fields, or the meadows, we seldom notice any bad results, but if they come to the surface where the ground has been cleared of all plants except the few purposely set there, we are immediately made aware of the presence of the enemy through the destruction of our choice plants. Early in the summer the worms attain their full growth, and then burrow deeper in the ground to appear later as a new brood of "millers," and thus the round of life goes on, generation after generation.

Cheeks and Remedies.

A number of insects are parasitic upon cut-worms, while still others attack and devour them. A large black ground-beetle, marked with rows of small copper-colored spots, is very useful, as its larvæ, or young, follow the worms into their burrows and kill them. Ants, also, when sufficiently numerous, kill many of them. Hand-picking—that is, digging out and killing them—is perhaps the most successful direct method of warring against them, but this is a long, slow process, and besides, we know where to seek them only after the damage has been done.

The method which I have found to be the cheapest and most successful is the following: As the young worms feed during the autumn upon fall-growing plants of various kinds, it follows that by clearing entirely any piece of ground of weeds and other plants during this time, the worms must starve. In the garden, then, no part must be allowed to become weedy after the crops are removed, for every weed may be nourishing several cut-worms. As rapidly as crops mature they should be removed, and the stems and rubbish carted to the compost heap. It may be well to so arrange the rotation of crops that the crop preceding the planting, which is subject to cut-worm depredations, is one which can be removed early from the ground. After removal of the crop the whole ground should be thoroughly plowed, and if plowed again just before frosts sets in, so much the better. When it is not possible to remove the crops before the close of the season, much good can still be done by clearing off the ground and plowing, for although the young cut-worms are present in the ground, the late plowing will disarrange their plans for hibernation, and the greater part of them will be killed by the frosts and other hardships of the winter. On the farm the same methods can be successfully applied. If a clover field is to be broken up and planted with corn, the plowing must be done in the fall if young cut-worms are abundant. Summer fallowing is a most excellent preparation for crops liable to be troubled with cut-worms, provided that the ground be actually fallow; a fallow field full of weeds is of no avail whatever. In a single sentence, I may say that *clear culture and fall plowing* are the secrets of success in dealing with cut-worms.—Prof. C. E. Bessey, Iowa Agricultural College, in *American Agriculturist*.

Carbolic Acid for Insects.

Speaking of the ravages of the radish maggot, the cabbage maggot, and other allied insects, Professor A. J. Cook says:

It occurred to me that carbolic acid, which is not only very repellent to insects, but also quite as remarkable in retaining its obnoxious odor for a long time, might be made more serviceable in this warfare.

I prepared some of this material as follows: To two quarts of soft soap I added two gallons of water. This was then heated to a boiling temperature, when one pint of carbolic acid (in a crude state) was added. This mixture is then set away in a barrel or other vessel, and is ready for use as occasion may require. I mixed one part of this liquid to fifty parts of water, to be used on the radish plants. It was used by three parties in three places. Mr. Lee used it in the College garden, a student—Mr. E. Hale—used it on a bed specially prepared, and I used it in my own garden. Mr. Lee sprinkled it on the plants and poured it into a trench made close beside the row of plants. Mr. Hale and myself sprinkled it directly on the plants. Messrs. Lee and Hale made but one application, and found that it kept the insects at bay for about two weeks. Even this proved of no little service. I made the application once every week, and the radishes were almost entirely free from the maggots. My bed was seventy or eighty rods from the other beds. But I caught the flies about my garden, and plants near by, not treated, were badly injured by the maggots. Two cautions should be urged: First, sprinkle the plants as soon as they are up, and thereafter every week or ten days; secondly, the mixture, if sprinkled directly upon the plants, must not be so concentrated as to injure the plants. My experiments this season make me feel certain that this will prove a valuable remedy.

About my house at the Michigan Agricultural College, I have planted a little apple orchard of eight trees. The trunks and larger branches of these trees have been thoroughly washed twice each spring, the last week of May and the last week of June, with soft soap. A neighbor but a stone's throw distant set out some fine primates about the same time that I set out my trees. He does not believe in the use of soft soap, practically at least, and his trees are sorely disfigured and greatly injured by the *Saperda candida* and the *S. cretata*, while my trees are smooth and admired by all. I have some pear trees in the same orchard which were not treated with the soap, one of which has been much injured by the borers.

This year I used the undiluted carbolic mixture instead of the soft soap. I fully believe this to be an improvement on the soft soap alone, as in some cases, if but one or even two applications of the soap are made, the effect is not so long continued as to entirely prevent the borers from egg-laying. The carbolic acid will tend to extend the period so that I believe two applications will in every case repel the beetles.

Work for the Month.—November.

Little time remains now for the preparations necessary to be made for winter, and what is to be done should be done quickly and thoroughly, that the work of the year may be well rounded off, and that of the coming season forwarded as much as may be by anticipating that which may be advantageously done now.

Grain Fields.—Though much delay in seeding was consequent upon the drouth, it is to be hoped now that all fall grains are in. A matter of importance then is to see that suitable water furrows are properly located and well made, that no water may stand about the plants, thus leading to loss by winter-killing.

The Corn Crop.—Make this safe without further delay. The risks and dangers to which it is always open in the field can be escaped only by housing it. Save the fodder carefully.

Root Crops.—Do not allow to be subjected to severe frosts mangels, sugar beets, or carrots. Flat turnips, and especially ruta-bagas, will stand more frost than the sorts named, but they should not be exposed more than could be avoided, whilst parsnips are rather benefitted than hurt by freezing in the ground, though, of course, such supplies as are intended to be marketed should be dug before the ground is closed. Delay should not be permitted in getting out potatoes, which ought to be exposed as little as may be to the light and air, and as soon as dried off put into the cellar. Roots of all sorts are conveniently and safely kept in trenches, or in conical piles, covered with a layer of straw, then with a coating of earth, to which more is added as the weather gets colder.

Tobacco.—Keep the barns open during the dry days, but always close them at night, so as to prevent the circulation of moist air through the tobacco, thus preventing the blackening of the tobacco, alternate drying and wetting. Tie up ground leaves and get them into market as soon as possible. The early market is generally the best.

Plowing.—If no other advantage arises from plowing in the fall and winter, there is some gain in furthering the work of the busier season of spring, when so much is pressed into a short time. But many believe that heavy clays are greatly benefitted by the alternate thawing and freezing of winter, which improves the texture of such soils, liberates plant food from its inert or fixed condition, and destroys the larvæ of many injurious insects.

Live Stock.—When the nights get cold feed a little grain and some long fodder, and put stock in the stable at night. Fattening hogs should be pushed forward, and they do much better when kept in small pens, a few in each, having a care to keep those of the same age and size together, that all may share equally. If some coarse ground corn meal is fed between the regular feeds it will be advantageous, and it may be either fed dry or slightly moistened.

The Orchard and Fruit Garden.—November.

Planting will be the most important of orchard operations during this month, replanting where trees have died out during the extreme dry and hot summer, as also setting new orchards. If there is any truth attaches to the old saying "Any thing that is worth doing at all, is worth doing well," it most certainly applies in tree planting. Notwithstanding the many volumes that have been written on the management of orchards and fruits generally, and the multiplied and cheapened opportunities for every one so desiring to inform himself and to be intellectually equipped, at least for the proper management in every detail of all kinds of fruit culture, there still is a large amount of bungling and slipshod labor in this field of industry. For the beginner we would lay down four primary or fundamental rules, which, if well studied and practiced, will be found profitable:

1st. Select good varieties of whatever kind of fruit you wish to plant.

2d. Deal directly with honorable nurserymen and get good trees.

3d. Plant carefully on land adapted to their growth; and,

4th. Give good and thorough culture after they are planted.

Do you ask how you are to know which are really good varieties? Inquire of gentlemen engaged in the business of growing fruit in the vicinity where you wish to plant. "Plant carefully" in rule 3d implies that you shall dress neatly with a sharp knife the ends of all roots that are bruised and mangled by the spade in digging, then set the tree in a hole of sufficient capacity to admit the roots without bending and cramping, let the tree be an inch or so deeper than it stood in the nursery—which is easily determined by the difference in the color of the bark of that part below the surface as compared with that above—fill in fine, good soil, enough to cover all the roots an inch or more, packing tightly amongst and over the roots; then a shovelful of well-rotted manure or compost scattered evenly over this, or if no compost is available, a handful of "bone-flour," "dissolved bone," or other good fertilizer, will answer; finish filling up with the soil that was thrown up in making the hole, firming it all down nicely, and the planting is well done.

It may, to a good many readers of *The American Farmer*, seem useless to repeat suggestions such as the above, but such readers should bear in mind that there are always, with the advent of every planting season, new pupils entering upon the study and practice of fruit growing, and to such it is mainly that these hints and suggestions are directed. It is a lamentable fact, however, that there are too many who have been planting orchards and attending them for years to whom it is necessary to suggest, from time to time, improvements in their careless and indifferent management of them. It is incomparably better to plant one hundred trees—well—and care for them well, than to plant a thousand and stint them in every way, depriving them of health, thrift, and forever of profitable produc-

tion. To sum the matter up briefly we would recommend the planting of smaller orchards, using more manure and giving the best of culture to the trees, and greater care in handling and shipping the fruit.

In the **FRUIT GARDEN**, in addition to the planting of new raspberry and blackberry beds, gooseberry and currants can be set as well, also grapevines; but for strawberries we prefer spring planting, unless done early in the fall; and the drouth that has prevailed so generally over our country this summer and fall has afforded poor opportunity for this work. Cuttings of grapevines, gooseberry and currants can be prepared this month, tied in neat bundles, labeled, and buried in the ground "wrong end up," so as to be beneath the frost-line, leaving until early spring, when they can be taken up and set in rows in good rich soil. A stock of favorite grapevines, currants or gooseberries can be obtained at little cost by this method. As soon as cold weather sets in mulch the strawberry beds with coarse manure, or light litter of some kind, to give the plants protection during the changes of winter weather.

Easy Blanching of Celery.

Peter Henderson says he knows of no vegetable on the cultivation of which there is so much useless labor expended as on celery. This is the reason so few cultivate it for their own use, and why those who attempt it do not succeed better. The chief difficulty is in blanching it well, and in securing a place for it where it is easily accessible. Although often prepared for the table late in autumn or early in winter, there are few who care much for it at those times when an abundance of fresh fruit can be had, and when so many other vegetables are easily obtained. On the approach of spring, and when the warm weather of April arrives, well prepared celery becomes delicious and is eagerly sought. The great point, therefore, is to have it ready immediately after the departure of the coldest winter weather. We have long been in the practice of blanching it in narrow trenches, one spade wide, and deep enough to admit the whole length of the plants standing erect in the trenches, which are thickly covered with forest leaves on the approach of winter. But this mode of packing them away late in autumn requires much more care and labor, and they are not very accessible for use when wanted.

A simpler, easier and better mode, at least for modern supplies, is to keep the plants when taken up, entirely away from earth, if intended for winter blanching. About the middle of November they are taken up on a dry day, and placed in water-tight troughs, or other vessels, in a quite dark cellar, the plants standing erect and closely together. Enough water is poured on the roots to cover them, and the supply is continued through winter as it evaporates. This constitutes the entire labor. The stalks are gradually and handsomely blanched in the darkness, and many new ones spring up during the winter months, especially if the apartment is not very cold, and these new shoots are remarkable

for their delicacy and perfect freedom from any particle of rust, appearing like polished ivory. A small separate apartment in the cellar, without windows, answers well for this purpose. Boxes, tubs, or any vessels which will hold a few inches of water may be employed. The plants, as grown in the open ground, need not be earthed up at all, or they may be slightly earthed to bring them into a more compact form if desired. Probably the best way would be to adopt the course which is sometimes employed of setting out the plants in summer on the level surface of deep, rich soil, eight or ten inches, or a foot apart each way, in order that their close growth may tend to give them a more upright form. They are merely kept clean by hoeing through the season.

The Proscription of Farmers.

Messrs. Editors American Farmer:

In your June number, I read with great pleasure Dr. Ellzey's lecture. It is refreshing to find a gentleman firm enough to advocate the interest of the proscribed farmer, and bold enough to truthfully expose the cause of the failure of the provisions made for their benefit, plainly saying what agriculture needs. His remarks about agricultural colleges, bureaus and commissions, so frank, good and true, farmers ought to value highly—it is just the talk they need. Correspondents of farming journals generally use so many scientific phrases that many practical farmers give it the name of "book farming," to the injury of the farmer and the journal.

In all the colleges, bureaus, national or state, can a farmer be found, not only as its *head*, but in *any* position in it with salary or pay? You may extend it and say or in *any political* place? Why this proscription of the farmer?

Again, go into our courts (of justice!!). I instance of Virginia because more familiar to me and presume the same in other States; the war not only filled its tracks with blood but broadcast ruin; thousands upon thousands of farms were by the courts put in commissioners' hands to be sold; thousands cruelly sacrificed, and among these thousands I have not known or heard of a single farmer appointed one of the commissioners. Why? The farmer ought to be as good a judge of land and as much entitled to equitable justice, sympathy and protection as any other class; but there is money in it, and commissioners are making fortunes out of farmers' ruin. In all these agricultural (in name only) institutions, having no practical farmer—probably none that can gear a horse or know how plowing is to be done, how to relieve suffering animals, or fatten them, how and when to plant, cultivate, cure and secure corn, fodder and hay, when to sow wheat, what preparation to make and how to secure it, and know the different animals—then how can they instruct? It is simply an expensive farce. Farmers are excluded, but not from paying taxes. A prominent politician said in Washington "the Agricultural Commission must be run by a party politician"—of course for party purposes. In this I do not agree. To make it a cabinet office

would effectually bar the farmer out. Nor do I justify expending immense sums in tea experiments; it is well known our country has great varieties of climate and soil, and plenty to suit tea culture, but we cannot with labor at one dollar per day compete with China at one cent per day, and what farmer is willing for the corn fodder he feeds to his stock in the winter to be used to make sugar while the sugar cane can be used?

This proscription of the farmer is perfected by conventions for party purposes invented in Van Buren's time. Districts pack delegates; conventions by threats, bargains, promises, bribes, intrigue, make nominations; no other candidate allowed, and this is practiced to disfranchise and make the farmer a slave to the politician. A M. C. once said "he would vote with pleasure for repeal of a measure he voted for," he knew at the time it would broadcast ruin, but he could not vote against his "party." This was not patriotism but the curse of party that would sacrifice country. A patriot ought to vote for the good of his country for national officers or national politics, for State officers, for the good of the State as a free man (regardless of conventions). It has been said, truly, by uniting, farmers could control elections and protect themselves, but they will not. Once they made an effort, Grangers sprung up, another profession got in, but was required to withdraw, not being a farmer; it lasted but a short time, the members rushed to be smothered in political conventions; it goes for to show the farmers that such despotism as the present would quietly submit to a despotism of Government. The writer saw in session the great Virginia Convention that framed her Constitution of 1829; probably, for purity, wisdom, talent and patriotism, the greatest body of men ever assembled since the formation of our Government, and we may never see their equal again—Madison, Monroe, Marshall, Tazewell, and a host of Virginia's wisest and ablest men.

"Search the world of living men—
Where will you find their like again?"

Mr. Webster said "Massachusetts only needed the county court system they established to make her judiciary perfect," there nearly all the justices of which this court was composed were farmers, and it had a high and honorable standing before the Court of Appeals—there was no pay or salary for them. That Constitution was changed, now salaries are given, farmers are not allowed to be judges of the county courts—under that of 1829 it took \$750 to support this county, now it takes about \$8,000. J. W. WARE.

Clarke County, Va., Oct. 8, 1881.

THE *American Agriculturist* announces as in press a book entitled "THE PROPAGATION AND CULTURE OF THE SWEET POTATO," by Jas. Fitz, author of "Southern Apple and Peach Culturist," etc., and a well-known contributor to the *American Farmer*. This will be found to be a very valuable work. There is no similar work published. The potato regions of this country are numerous and extensive, and the culture of this esculent is becoming very large.

Home Department.

Little Things.

We need not to be told that it is trifles of which the aggregate of things immaterial as well as material are composed, but we do need occasionally to be reminded of the fact, since practically we are so apt to ignore it. In matters of home care and home comfort, with which we are supposed to be most concerned, there is especial need to recall the attention of all who compose the household to the various "little things" with which each or all may have more or less to do in the home economy.

Just now we are all probably more or less exercised about the warming of our houses during the winter. Many people will no doubt do as they have always done, whether it is the best way or not, merely because "they have always done it." If there is comfort and satisfaction in so doing, by all means let them continue therein, with the caution, however, to have such conveniences (?) as they will be likely to use in good order—chimneys clean and stoves mended, if they require it, before the severity of the weather makes delay impossible, when they must needs put up with things out of order all the winter or risk sickness and life by further delay. However hard it may be to spend the money for such things promptly, there is nothing saved by delay when there is absolute need for anything, whereas there is often a loss in so doing.

Speaking of repairing stoves leads me to give my own recent experience in that respect. I have a cooking stove which has for several years been the admiration and envy of all my neighbors, but, alas, it could not defy the ravages of time and rough usage—although its name is "On Time"—and this summer found it literally burnt out. I had only thoughts of a new one, thinking this past all redemption. Accordingly I wrote to the manufacturers as to prices, etc., when the reply came: "Why don't you send us the old one to be repaired? We can make it as good as new, at a much less cost, and also add new improvements if desired." I took the hint, although it had to be sent all the way to Elmira, N. Y. In a short time there was returned to me such a stove as would delight the soul of any housekeeper who is alive to the value of such things. To the original plain stove with the usual oven and liberal accommodations on the top for cooking, they had added a reservoir for water against the back which always keeps hot, and below that a warming place for dishes, or for keeping things warm after dishing up, and all the inside of the stove was entirely new. The whole cost of this, together with freight both ways, was only about twenty-five dollars. A new one like it would not have been less than fifty dollars at the lowest, besides the freight. I have so often disposed of better stoves than it was when I sent it away, for old iron, and then paid a pile of money for a new one, that I value this experience, and hope others may do likewise. It is always best to send to the manufactory where the stove was made. The trouble to yourself is no more, and the freight is trifling compared with the advantage you gain.

In regard to warming the house, it is well to be cautious about new departures. Many of them prove unsatisfactory and also dangerous. In the first place, make your house as comfortable as you can without artificial heat, by attention to leakages about doors and windows and by letting in all the sunshine possible. If you live and sleep on the north side of the house you may calculate on a much larger outlay for fuel. Theories differ about sleeping in cold rooms, but no one will dispute the necessity for pure, fresh air, whether sleeping or waking. I shall always advocate warm dressing-rooms. If they are not to be had for the individual members of a family, let there then be one in common, which by a little good management can be made private at times; but don't expect your children will be neat or cleanly if they have not some such accommodation in cold weather. It used to be tolerated by respectable people that the family eating and sitting-room should be used for such purposes, but such is no longer the case, and ought never to have been; the thought of it is disgusting.

This leads us again to a subject which will bear frequent handling. It is the importance of painstaking in regard to our eating quarters, and the manner of setting the food before our families. There is an instinct which leads every housekeeper if possible to arrange for as nice and pleasant-looking place as her house will afford for occasional visitors; also to bestow extraordinary care on the setting and furnishing of her table on such occasions. Why, pray, should such care be only for visitors, to whom at best it is only a passing gratification, when those nearest and dearest to us would not only derive continual pleasure from such a table and surroundings, but, I venture to say, would be better men and women from having them? Yet how often is that company dining-room thought too good for every-day use, and the kitchen, with its many unsightly suggestions and unpalatable fumes, made to serve the sacred purpose of being the continual gathering-place for a family around the "family board." I have hardly patience to dwell upon the shortsightedness, to say nothing of the indifference, that such things proclaim. No matter how plain and simple the food may be, it is infinitely better for being carefully prepared and neatly served in a cheerful and suitable room. I do not say that kitchens are never fit to eat in, for there are kitchens and kitchens. Occasionally we find one in which a king might revel with delight—so clean, so bright, and so innocent of lingering odors, but these are not the "universal kitchen," by any means.

Another point in this connection suggests itself; that is, order in the eating as well as in the serving. There is little comfort for any one at the table if there is a promiscuous jumping up, first of one and then another, to wait upon the table. Of course, many of us cannot set apart a servant for that particular purpose. Indeed, we often have no servant for that purpose or any other; but some one must serve, all the same, and if we are self-served we may be even so best served. But careful forethought will greatly lessen any need for any one to leave the

table, and for necessary waiting one person should be detailed for the purpose to avoid confusion, and that one should never be the head of the house; rather let the boys be trained to it. A woman must lay aside her self-respect to take upon herself such duties while she has children present able and old enough to be called upon.

We must all have noticed that in some houses things never seem to get broken or out of order, while in others they want constant mending or renewing. Now, there is no mystery in this, although we so often hear persons wondering why it is so. It is simply the result of careful habits. When chairs or tables are moved they are taken up and set down without a thump and hit against something else; when not wanted they are set aside where they belong, instead of being left to stumble over in the dark, or by the impetuous rushing around of boys or children. When a window shade is to be drawn up or down, sufficient time and care are taken to hold it straight, so that the edges do not get rubbed in the process, and it is left straight. Care is also taken, if the sash is opened at all, that it shall be a little lower than the shade, to avoid the blowing about of the shade, so ruinous to it. When any one lifts the pitcher from the basin to wash themselves, it is not set upon the corner of the stand, to be easily elbowed off, nor is it set carelessly upon the floor, where a backward step or an opening door will upset it. But all of these accidents (so-called) are avoided by setting it, and everything else they find it necessary to handle, where they are not liable to such mishaps. It is not important that careful housekeepers should always be on the rampage, spying around for possible derelictions on the part of their servants or children, but it is of the utmost importance that she should, if possible, install into them a quickness to see when things are out of place, and a readiness to set them carefully in place, a gentle way of handling perishable things and a pride in making them last as long as possible and in a good condition.

I suppose there is no woman in the land who becomes a housekeeper without some degree of ambition to be a notable one. The trouble is the standard of excellence varies so much. A most serious obstacle with the inexperienced is the failure to realize that "eternal vigilance" is the price of success. There are what might be termed strong features in housekeeping that force themselves upon our notice, but where the demand for vigilance comes in is in little things which either escape notice or seem trivial, and it is these little things that make the whole perfect or else fret the soul out of the housewife, and often the fortune out of the family pocket.

CERES

Concerning Beds and Bedding.

A very expensive feature of house furnishing is the bedding, and a nice bed, and a good one, should be well taken care of and protected from dust. A great many people who claim to possess "common sense" still continue to have their bed-room floors covered with a carpet which is nailed down and not taken up and shaken more than twice a year. It follows that whenever the

carpet is swept, more or less dust is put into motion and settles in due proportion upon the bed. If, prior to the sweeping, the bed is covered with a large duster, this difficulty will be avoided.

For a bed of large size it requires ten yards of calico to make a duster—four widths, two and a half yards in length. Very nice calico, well starched, can be had for from seven to eight cents a yard. For ten cents a yard beautiful chintzes can be had, in bright rich colors. For a three-quarter bed, three widths of the calico are enough, but the length must be two and a half yards. If all the bed-rooms in the house are swept on the same day, at least two dusters are required for "sweep-day" purposes, while a duster each for all beds not in constant use is needed. To keep a spare bed "made up" is a great piece of extravagance. The bed-linen and bed-spread become gradually soiled, and when the bed is to be occupied it needs to be made up afresh in order to be in proper condition. The best housekeepers keep all their bedding—pillow cases, sheets, covers, etc.—folded when not in use, and the bedding carefully protected with a chintz cover, which lends a bright and tidy appearance to the room. Some have a case made of blue and white checked cotton for protecting the mattress from soil. A pair of sheets the size of the top of the mattress, with a thin layer of cotton between, and quilted on a machine, is very nice for a sandwich between the sheet and mattress. It is easily worked, adds to the comfort of the bed, and protects the mattress. Whatever will keep bedding clean is desirable, for it is undeniably laborious work to clean bedding.

Long sheets which turn down a full half yard over the bed covers protect them very much from becoming soiled. For warm, heavy blankets in constant use, and which can only be cleansed without injury at considerable expense, a shield of white muslin can be very effectively used. If the blanket be two and a half yards wide, that much in length of muslin will be required, with a little allowance at each end for a hem. Fold the muslin straight through the centre the long way, so that one half will go on one side of the top end of the blanket and one half on the other side. With a needle and thread fasten the muslin to the blanket across the top with basting stitches, and again at the bottom of the muslin. The muslin shield can be removed and washed as often as one likes.

Bed-ticking stained with blood from nose-bleeding, wounds, or other causes may be cleaned by applying starch, well moistened with water, to the spot. Renew the wet starch until the stain is extracted, the wet starch absorbing it.

A cheap and very comfortable bed, with an under-bed of straw, hay or husk can be made by putting on the top a light cotton "mattress," which can be made at home. For the two sides of the "mattress" bed-ticking is best, and they should be somewhat longer and wider than the top of the bed, as in tying the size is somewhat reduced.

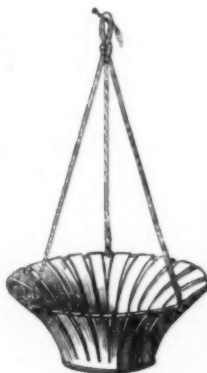
Put two or three times as much cotton between the "sides" as are put between those of a "comfortable," and tie quite closely; finish by turning in the two edges and sewing them overhand, or stitch on machine.

Beds of straw or husk look infinitely better and are far more comfortable when the ticks are made like those of a mattress, with a straight, upright piece sewed in all around. The corners should be clipped off, so that the tick will be round at the "corners," as it fits the bedstead better. Do not fill the tick through an opening at one end, but through a slit cut in the middle of the top "side."

This slit should be two feet long; one side should be faced, and on the other sew a wide piece to act as a lappel, which should button over on to the faced side. When the filling of the tick becomes disarranged or needs to be stirred up, the convenience of the slit will be made manifest. I once supposed that everybody made straw ticks in this way, until I found out differently, which must be my excuse for giving this description.

If a bedstead has become infested with the small insect that the English call a "Norfolk Howard," and is difficult to be kept free from the pest, give a good coat of paint to every part of it that is not varnished, and you will have no further trouble with bugs.—*Rural New Yorker*.

Utilizing Old Cans.



Old fruit or vegetable cans can be utilized by cutting into strips about three-quarters of an inch wide to near the bottom and spreading, as shown in accompanying cut. Then take a strong wire, and with a hammer and a wooden block bind the end of each strip over the wire at equal distances apart, suspend by wires and paint the whole bright red, when with pretty moss and some simple vines or more choice flowers it will be a "thing of beauty" that will be a joy—as long as it lasts. c.

Domestic Receipts.

Real English Plum Pudding.

Three lbs. stoned raisins, 1 lb. currants, 1 lb. finely-chopped suet, 2 qts. flour or 1 of flour and 1 of bread crumbs, 4 eggs, 1 coffee cup sugar, 1 nutmeg grated, 1 teaspoonful cinnamon, half teaspoonful mace, 1 tablespoonful salt, milk sufficient to make all the ingredients stick together nicely. (It is better to put this quantity in two pudding-bags, because if only one is eaten the other will keep for months in a dry place, and

when wanted return to the bag and drop into boiling water long enough to heat through.) Boil six hours; when done dip in cold water to make it turn out nicely. While boiling be sure to keep it well under the water, by adding occasionally from a teakettle kept boiling for the purpose.

Sauce.—Yolks of 4 eggs beaten very light, 1 lemon, juice and half of grated peel, 1 glass good wine, 1 teaspoonful cinnamon, 1 cup sugar, and 1 tablespoonful butter. Rub butter and sugar together, add yolks, lemon and spice, beat ten minutes, add wine, set in a vessel of boiling water and stir while heating, but do not boil it.

Chocolate Creams.

Two cups granulated sugar, half cup water, half cake Baker's chocolate. Boil sugar and water together exactly five minutes after beginning to boil, stirring constantly while boiling, also while cooling, and add vanilla according to taste. Roll into little balls when cool enough to handle. Heat the chocolate in a tin over a boiling kettle, and when nicely melted roll the balls separately in it with a fork and put on buttered paper to cool. HOUSEHOLD.

The Grange.

MONTGOMERY COUNTY GRANGE, No. 7, held a very large meeting at Gaithersburg on October 27th. Among other matters of public interest, an earnest discussion was had on the best method of protecting sheep husbandry. Statistics were gathered from the members present, and 237 sheep were known to have been killed by dogs in the last two years. It was agreed by the unanimous vote of the Grange to petition our delegates to the next Legislature to have passed an act with these features:

1. All dogs shall be declared a nuisance. Any dog found without a collar with the owner's name legibly inscribed thereon, within 60 days after the passage of the act, shall be killed by any constable in the district, said officer to receive — cents, to be paid by the owner of the dog, unless the amount cannot be made, then the constable shall present his bill, duly proven, to the tax collector of his district, who shall pay it from the license herein provided.

2. All damage done to man or beast of any kind shall be paid for by the owner of the dog committing the damage; if the amount cannot be made out of the owner, he shall forfeit the dog, which may be killed by the party damaged, or he shall cause him to be killed by the constable.

3. Any dog caught in the act of damaging sheep shall be killed on the spot, the owner of said dog shall not be able to recover any redress, nor will he be exempt from the damage done by the dog.

4. Any person desiring to retain in his possession a female dog may do so by procuring from the clerk of the court a license to that effect, by paying the sum of \$5 annually; and any person retaining in his possession a female dog without license shall be subject to the fine of \$10, to be collected as other fines; and it shall be the duty

of the constable in each district to see that all female dogs not licensed are shot, and he shall receive the sum of — for killing the same. The amount arising from licensing female dogs shall be paid over by the clerk into the hands of the commissioners, and may be drawn on by the collector to pay the constable for services in killing dogs upon proper evidence.

The Cecil County Fair.

The Cecil Society, though yet in its infancy, seems to be a popular, as it is evidently a well-managed association, and the Fair of this year was successful in every way, the exhibition and attendance both being large. The grounds are well located and arranged; the track is a model one as to outline and condition, and though some of the exhibits are still shown in temporary shelter, there are several permanent structures, including an exhibition hall and grand stand of large proportions, already completed. In the cattle department the show was exceptionally good for a county fair. Shorthorns, shown by Judge Frederick Stump, of Cecil; E. B. Emery, of Queen Anne's; Geo. Ashbridge, of Chester county, Pa.; Benjamin Green and W. H. Terry, of Cecil. Jerseys, shown by A. R. Magraw, of Cecil, and Guernseys shown by R. H. Hodgson, of Chester county, Pa., predominated, there being also some Ayrshires and Holsteins. The horse display was very creditable, comprising some notably fine specimens; the sheep department very attractive, and the swine numerous and good. The display of farm, orchard and garden products showed the effect of the drought, but was large; and the household department, the poultry show, and machinery display were all of very gratifying proportions.

Harford County Fair.

The attendance was good at Belair this year, and we take it the Fair was a pecuniary success. The displays of stock, it seemed to us, were hardly up to the exhibits of former years, and in some other sections the ill effect of the severe drouth was plainly visible.

There were some good horses in the stalls, as is always the case here, in each of the classes. In cattle the same competitors in Shorthorns met as at the Cecil show, and Mr. James Lee; and in Jerseys some good and handsome animals were shown by Messrs. W. S. Archer, H. D. Farnandis and S. Archer. The sheep and swine exhibits were a little off in numbers; the poultry was abundant; fruits and vegetables deficient as compared with former Fairs, and the ladies' department fully up to its usual condition of completeness. The machinery was abundant. The people of Harford make almost a general holiday of the Fair week, and probably few local societies have been operated with more favorable results to the people at large than this.

The American Farmer.

PUBLISHED ON THE 1ST OF EVERY MONTH
By **SAM'L SANDS & SON.**

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(Sign of the Golden Plow,)

BALTIMORE, MD.

WM. B. SANDS, Proprietor.

SAMUEL SANDS, }
WM. B. SANDS, } - Editors and Publishers.

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One Page	20 00	45 00	75 00	100 00

Cover Pages subject to special contract. Transient Advertisements payable in advance—all others quarterly. Advertisements should reach us by the 27th of the month, to secure insertion in the succeeding issue.

*. Subscribers who have minerals, ores, marls, fertilizing materials, or other substances, will be advised through our pages, by competent chemists, as to their composition, uses and value, by forwarding specimens to this office, *expressage or postage prepaid*. Questions as to application of chemical science to the practical arts will also be answered.

*. Persons desiring information or advice on diseases or injuries of domestic animals, will receive replies from a competent Veterinary surgeon, by giving a plain statement of the symptoms, &c.

*. Microscopical examinations will be made by an expert of fungous growths and other objects sent.

BALTIMORE, NOVEMBER 1, 1881.

The American Farmer for 1882.

Change of Form and Time of Publication.

From the beginning of the new volume, January 1st, we shall publish the *American Farmer* as a semi-monthly, the date of issue being about the 1st and 15th of each month. Its form will be changed to a broad quarto of from twelve to sixteen pages, each of four columns, and every number will contain an average of as much reading matter as is given in the present monthly editions. Our subscribers will thus not only receive twice as frequent issues, with the corresponding opportunities of more quickly acquiring the agricultural information they contain, but they will also have the advantage of nearly double the quantity of reading which is now afforded in the existing shape.

We expect to make this change redound in many ways to the benefit of our readers. The increased space at our command will admit of a larger variety of subjects being treated, and of such as deserve it being discussed at greater length. Some new features will be incorporated, and the publication will be in every way kept up to the high standard of efficiency and usefulness which has marked its conduct for so many years.

Every department of the *Farmer* will, as heretofore, be under the direct charge of a competent and practical worker in that particular field, whose experience and observation in his or her specialty constitute exceptional qualifications for the work.

The veteran BRACKENRIDGE, than whom no higher authority is acknowledged in this country, will continue to give his valuable suggestions each month for the lawn, pleasure-grounds and greenhouse, his recommendations epitomizing at once the progress made in ornamental gardening and the seasonable practical operations in each branch.

Mr. J. W. KERR, a nurseryman and fruit-grower of high repute for sagacity and skill, will furnish the usual synopsis of work in the orchard and fruit garden.

Mr. JOHN WATSON, who is a gardener of wide experience as well as great learning, will continue his notes on the vegetable garden.

Mr. R. S. COLE, recognized as a competent exponent of the great trucking interests of this vicinity, will renew his useful and interesting contributions on vegetable and fruit-growing.

The Live-Stock Department will be under the charge of a gentleman of amplest practical experience, and himself a breeder of various kinds of improved stock; whilst on the staple crops, such as tobacco, etc., the notes and suggestions will be supplied by specialists in each branch eminent for their success and intelligence.

The direction of the 'poultry' columns will remain in the hands of Mr. GEORGE O. BROWN, the Secretary of the Maryland Poultry Club, an authorized judge of the American Poultry Association, and favorably known all over the Union as a breeder and author.

Mr. CHARLES H. LAKE, one of the most experienced of American bee-keepers, will continue his discussion of apiary topics.

Occasional articles will be given on the diseases of farm live-stock and their treatment by Dr. R. P. LORD, a competent and educated veterinary surgeon, who will also reply, from time to time, through our columns, to such questions as may be propounded on these subjects.

Inquiries as to the application of chemical science to the practical arts will be answered by skilled chemists, who are also ready to pronounce on the value and composition of specimens of minerals, ores, marls, fertilizing materials, etc., which may be submitted by our subscribers.

The Home Department will be maintained, and its bevy of accomplished lady contributors, headed by the talented and versatile "CERES," will find opportunities for enlarging its scope of usefulness by the greater space it will now be practicable to give it.

Last, but not least, from our numerous contributors, men who stand prominent in their special branches of farm work, we expect a continuance of their reports of experiences, and their discussion not only of the agricultural processes, but of the principles which underlie them, and the great social questions which affect the well-being and progress of our agriculture.

The *Farmer* will be printed on fine white paper, in clear type, set somewhat more open than heretofore, which will be acceptable, as we think, to our readers; and such subjects as require illustration will be accompanied by engravings, which will not, however, be inserted merely to fill up space.

Terms for 1882.

Useful and Valuable Premiums to Subscribers.

The subscription to the *American Farmer* for 1882 will remain as heretofore, viz.: \$1.50 a year, or to clubs of five or more, \$1 each.

Although at this rate—the amount of matter furnished and its practical and valuable character considered—the margin of profit on the production of the paper is small, we are desirous, by offering still greater inducements, to enlarge our subscription list for the coming year, every such substantial increase affording us the opportunity of extending the value and utility of the paper to its readers. With this view we offer the following

PREMIUMS.

To every subscriber for 1882, whose subscription is received before April 1, 1882, whether new or old, coming singly or in clubs (if old subscribers, all arrears to be paid), we will give the choice of one of the following:

No. 1. Twenty-five plants of the Mount Vernon Strawberry; or,

No. 2. Twenty-five plants of the Miner's Prolific Strawberry; or,

No. 3. Six plants of the Queen of the Market Raspberry; or,

No. 4. Ten papers of popular kinds of Flower Seeds; or,

No. 5. Any one of the Books mentioned below:

1. Companion to the Revised Version of the New Testament, by Rev. Drs. Roberts and Philip Schaff. [The price of this book in cloth is 75 cents.]

2. John Ploughman's Talk, by Rev. Chas. H. Spurgeon.

3. Macaulay's Essays.

4. Carlyle's Essays.

5. Self-Culture, by John Stuart Blackie.

6. Calamities of Authors, by I. Disraeli.

7. Ethics of the Dust, by John Ruskin.

8. John Ploughman's Pictures, by Rev. C. H. Spurgeon.

9. The Naniiness of Christ, by Thomas Hughes.

10. America Revisited, by G. A. Sala.

11. Culture and Religion, by Principal Shalrp.

12. Out-door Life in Europe, by Rev. E. P. Thwing. Or,

No. 6. One of the following splendid Hardy Ornamental Flowering Shrubs, which comprise the two most beautiful species of late introduction, and both of which should find a place in the garden or yard of every reader of the *American Farmer*, each one being emphatically "a thing of beauty:"

A. Hydrangea Paniculata Grandiflora.

B. Viburnum Placatum.

All of the above will be sent by mail to the address of the subscriber at our expense, the books at once and the plants and seeds in time for planting or sowing in early spring.

[38] Subscribers are expected to notify us of their choice of premiums upon remitting.

[39] For particulars descriptive of these premiums, see below.

Our Premiums.

The varieties of fruits we select are chosen, not from any assumed merit they may have on account of their novelty, but because they are believed to be the very best to be procured for the purpose we have in view—the dissemination of sorts of the best quality, adapted to general cultivation.

No. 1—*The Mount Vernon Strawberry* is one of the most promising of the newer varieties. It originated in New Jersey, where it has received a great deal of praise. It is a strong healthy grower; enormously productive, and is said to have produced 300 bushels of fruit to the acre. It has the desirable quality of blossoming very late, thus escaping injury by late frosts, often so destructive. It is moderately firm and of a fine bright scarlet color and excellent quality. It is the berry for home consumption and

for not too distant markets; averaging large in size (which is kept up till end of season), whilst the plant is free from blight and scald and remarkably prolific. It is identical with Kirkwood. It promises to become, uniting so many excellent qualities, one of the most popular sorts.

No. 2—*Miner's Prolific Strawberry*.—This is not so new a sort, but we adopt it because of its general excellence and adaptation to all circumstances. It is a superb berry, averaging very large, and uniform in size, continuing in bearing a long time. Its color is a deep crimson; flavor good; foliage clean, healthy and luxuriant. It is extremely productive. It has a glossy green cap which holds firmly even when full ripe. The berry is moderately firm and a tolerably good shipping sort.

No. 3—*Queen of the Market Raspberry*.—This is synonymous with the "Cuthbert." In no other variety are there so many good qualities combined. It is large in size, firm in texture, of a fine appearance and handsome red color, of strong vigorous growth of cane; hardy and remarkably productive. To all this, must be added that wide trial shows it to succeed in every locality—to be of universal adaptation to all sections, situations and soils. Many good judges agree in pronouncing it the best raspberry for the country at large that is known.

No. 4—*The flower seeds* we offer are popular sorts, of easy cultivation, of the best strains to be procured and in packages which never retail for less than five or ten cents each. They will make the garden of any lady gay and fragrant.

No. 5—*The premium books* which we offer are standard and classic works. They are good books, and varied enough in their selection to suit every taste. They are books to be read and kept and re-read. These books, bound in cloth, sell at from 75 cents to \$1.00 each. The premium editions we offer contain the same identical matter, unabridged, are handsomely and clearly printed, and substantially bound in postal card manilla.

No. 6—*The Hydrangea paniculata grandiflora* is pronounced universally to be decidedly the finest flowering shrub of recent introduction. It grows to be eight or ten feet high, with immense heads of white flowers a foot long, produced in August and September.

The *Viburnum plicatum* is another superb and rare flowering plant, with globular clusters of pure white flowers, produced all over the bush, in June.

To the Friends of "The American Farmer."

The desirability of more frequent communication with our readers has long been appreciated by us, and the change about to be made in that direction in the publication of the *Farmer* is only to meet that want, and is in accord with the progressive tendency of the times. Occasions are numerous when the information of events is of double value by being promptly conveyed to those whose interests it affects, and this is as true of agricultural as of any other news. The additional market quotations, for instance, now to be afforded cannot but be of great value to all who consult the reports from this important commercial centre.

It remains for our old friends and subscribers to second, by their countenance and active aid, the endeavor to make the paper more and more useful. In no way can this be better done than by enlarging its circulation. As the circle of its subscribers increases, the fund of information and experiences available for mutual use enlarges in the same ratio, to the common benefit of all.

Will not those, therefore, who have tested the value and who know of the services to the farming cause of the *Old Pioneer*, commend it to their friends and neighbors and invite them to enroll their names amongst the intelligent agriculturists who now make up its constituency?

The Nursery of Franklin Davis & Co.

It gives us great pleasure to call attention to the advertisement of these gentlemen, who are working very energetically and extensively in the nursery line in the vicinity of Baltimore as well as at Richmond, and whose large stock will enable them to meet the wants of planters from every locality, in the choice of varieties, etc. They have now, as will be seen, 400 acres in nursery stock, besides 100 in orchards and 100 in small fruits. Send for their catalogue.

A Chester White Pig for Germany.

Mr. A. Wittekind, a subscriber in Holstein to the *American Farmer*, having applied to us to purchase and forward to him a Chester White boar, as a specimen of a breed of swine purely American, we selected one from several exhibited at the Cecil Fair by Mr. R. H. Hodgson, of Chester county, Pennsylvania, and had him shipped by the steamship *Silesia* to his German destination, where he will doubtless be received and treated with the consideration due an American sovereign.

"The American Farmer."

"It is the best agricultural journal that I have yet seen, and I shall be only too glad to renew my subscription when the time comes."—F. A. PARKER, Brunswick county, Va., Oct. 16, 1881.

"I renew my subscription to the *American Farmer*. Since I stopped taking it I have missed it as much as, if not more than, any magazine I ever took."—J. H. SAUNDERS, Pitt county, N. C., Oct. 14, 1881.

"The October number is full of interesting and useful reading, and is worth more to the farmer than the cost of a whole year's subscription."—*Belair (Md.) Times*.

"It is full of interest. We don't see how any farmer can do without it."—*Newberry (S. C.) News*.

"Its plain, practical hints and articles for farmers make it one of the 'necessaries of life' to the Maryland farmer. It is replete with interesting agricultural information, and its home or family reading should be read around every hearthstone in the State. A farmer said only the other day: 'Its Baltimore market reports have saved me over one hundred dollars this year.'"—*New Windsor My Maryland*.

[The feature of our market reports will have double value in the future, when they will appear twice as frequently.]

QUARANTINE AGAINST MARYLAND CATTLE.

Governor Cullom, of Illinois, has issued a proclamation prohibiting the importation of cattle into that State from certain counties in Pennsylvania, New York, New Jersey, Delaware and Maryland, on account of the alleged existence of the pleuropneumonia in these counties. Cecil, Harford, Baltimore, Howard and Carroll are the proscribed counties in Maryland. Cattle sent to Illinois from the localities designated in the proclamation must be accompanied by a certificate of health from a duly authorized veterinary inspector.

Books Received.

"THE SMALL-FRUIT CULTURIST" (new edition), by A. S. Fuller. Thousands of fruit-growers are ready to testify to the great practical value of this work, as it came from the publisher's hands over a decade of years ago, brimful of just such information as the growers of small fruits actually needed to make their business remunerative and successful. We thought when we first read it that we had never read after any writer who could better illustrate with words the practical operations of fruit-growing. The dissemination of that book gave an impetus to the growing of small fruits that in a few years made it a business of itself, colossal in its pro-

portions. The good done by the book, we opine, was much greater than even its author had expected. The condition of the small-fruit interest of our country to-day is so changed from what it was fifteen years ago that the author of "THE SMALL-FRUIT CULTURIST" has deemed it necessary to rewrite and enlarge the work. An examination of this new edition establishes one fact clearly, and that is that while the business of growing small fruits was infused with healthy progress by the first edition, the author has kept in advance of the tide, and has made this rewritten and enlarged work indispensable to every one growing any of the small fruits. While it is of great value to the commercial growers, it is no less so to those who only grow small beds for family use, and all such will find it money well and profitably invested in the purchase of it. Price \$1.50.

"THE AMERICAN BIRD FANCIER."—From the illustrations it would appear that the first edition must have been issued some fifty years ago; but if we went back twice that number of years it would not alter the nature of our "feathered favorites," or the care and attention they require when in confinement, and they need some little at our hands when we consider how many lonely hours they cheer, often causing those in the *mare clausum* of a sick room to look from Nature up to Nature's God. An ornithologist looking through this book would see much that might be added but nothing to retract, and we do not scruple to say that no bird fancier will regret the trifle laid out upon this helpful little volume. Price 50 cents.

"SILOS AND ENSILAGE."—Edited by Dr. Geo. Thurber. This is rather a compilation of facts and experiences from articles published in the agricultural and other papers, and brought thus together in a form convenient for examination and reference. Price 50 cents.

"THE SADDLE-HORSE."—This is a very tastefully gotten up volume on training and riding the horse, with chapters on his various gaits, his vices, tricks, etc.; on bits and biting, and his general education for the saddle, many of which may be read with profit as well as interest even by practical horsemen. Price \$1.00.

[All of the above were received from the publishers, The Orange Judd Company, New York, through Messrs. Cushings & Bailey, of this city.]

ALL NEW SUBSCRIBERS whose subscriptions are received before December 31 will receive the last three numbers for 1881 *free*.

ANOTHER IMPORTANT PATENT DECISION.—The United States Court of the Eastern District of Pennsylvania, Justice Butler presiding, has just decided that Dederick's patents on the horizontal baling press, wherein the loose material is pressed by sections into bales, are valid, and protect him in the exclusive manufacture and use thereof.

Baltimore Markets—November 1.

Breadstuffs.—*Flour*.—The market is dull and prices for trade brands are generally about 5 cts. per bbl. lower. We quote as follows: Howard Street Super \$4.75 @5.50; do Extra 5.75@6.50; do Family 6.75@7.50; Western Super 4.75@5.50; do Extra 5.75@6.50; do Family 6.75@7.50; City Mills Super 5.00@5.75; do Extra 6.00@6.50; do Rio brands Extra 7.65; Patapsco Family 8.25; Orange Grove Extra 7.65; Fine 4.25@4.50; Rye Flour 6.75@6.25.

Wheat.—To-day the market opened firm, and under a brisk demand sold steadily upward, closing strong at the highest figures of the day. We quote: Cash \$1.38½ @1.39; November 1.38½ @1.39; December 1.44½ @1.44½; January 1.48½ @1.48½; February 1.51; S. Fultz 1.53½ @1.55; S. Long Berry 1.28@1.45.

Corn.—The market to-day was firm and prices show a considerable advance over the lowest figures of yesterday. We quote: Cash 68½; November 68½; December 70½ @71; January 72½ @73; S. White 72½; S. Yellow 68½ @70.

Oats.—Steady to firm with a fair demand. We quote: Western mixed 48@49; do bright 49@49½; do white 50; Pennsylvania 49@50; Southern 48@50.

Rye.—Small lots fair to good Maryland and Pennsylvania are quoted \$1.05@1.08.

Mill Feed.—Dull and heavy. City Mills Feed is quoted at \$31 per ton for both Brownstuf and Middlings.

Hay and Straw.—Hay is barely steady. Straw is quiet. We quote as follows: Cecil Co. Timothy \$22 @24; Pennsylvania \$18@19; Western \$19@20 for large and \$20@21 for small bales; mixed \$18@19; and Clover \$15@18 per ton. Straw is quoted at \$9@11 for wheat, \$11 @12 for oat, \$16@18 for long rye, and \$14 for short do.

Seeds.—The demand for Clover is moderate and the market is quiet. Prime to choice is quoted at 8@9 cents per lb. for car lots and 9½@10 cents for job parcels, and common 7@8 cents. Timothy is nominal at \$2.00@2.75 per bushel.

Provisions.—Quiet with a good jobbing trade reported for the season and weather. The prices for packed lots are as follows: Bulk Shoulders, packed, 9 cts.; do L. C. Sides do 10½ cts.; C. B. Sides do 10½ cts.; Bacon Shoulders do 10 cts.; do C. B. Sides do 11½ cts.; do Hams, sugar-cured, new 14½@15½ cts.; do Shoulders do 10@10½ cts.; do Breasts do 12½ cts.; Lard, refined, tierces 15 cts.; Mesa Pork, per bbl., \$18.50.

Butter.—Steady to firm. We quote as follows: New York State, new, choice, 28@30 cts.; Creamery, fancy, 36@40 cts.; do prime to choice, 33@36 cts.; N. Y. dairy packed, choice, 36@38 cts.; Western, choice, 35@38 cts.; do good to prime, 34@36 cts.; Near-by receipts, 25@27 cts.

Cheese.—We quote New York State, choice, 13½ @14 cts.; do good to prime, 12½@13 cts.; Western, choice, 12½@13 cts.; do good to prime, 11½@12 cts.; do common, 8@10½ cts.

Eggs.—The demand is good and the market is steady to firm at 25 cts. per doz. for strictly fresh stock.

Poultry.—The receipt of Chickens are large and the market is dull and heavy at 7@8 cts. for young and 6 cts. for old. Ducks are steady at 10 cts. per lb. or \$5 per doz.

Cotton.—The demand is more quiet and the market is steady with no urging of stock. The official quotations are as follows: Middling 11½@11½ cts.; strictly Low Middling 11 cts.; Low Middling 11½ cts.; strict Good Ordinary 10½ cts.; Good Ordinary 10 cts.

Live Stock.—*Beef Cattle.*—The market has been quite slow this week except for the best grades, which were very scarce, and on these prices were fully maintained. But the bulk of the offerings were of the medium and common grades, the latter predominating. For these, and in a few instances middle cattle, prices were ¼ @½ c. off, and trade exceedingly slow. We quote at \$2.00@6.00 with very few at either extreme, most sales ranging at \$3.50@5.00 per 100 lbs.

Milk Cows.—Prime cows are quite scarce, and sell at retail at \$50@70 per head.

Swine.—There is a large increase in the receipts over last week, without any improvement in the activity of the market, though prices are easier than they were then. We quote at 7½@8½ cts. with a few extra at 9 cts. per lb. net.

Sheep and Lambs.—There is a full supply of sheep and lambs in the market this week. We quote butcher Sheep at 3@4½ cts., and Lambs at 4@5½ cts. per lb. gross. Stock Sheep—Ewes \$1.50 @2.50 per head, and Wethers 8½@9½ cts. per lb.

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IT IS THE HEIGHT OF FOLLY to wait until you are in bed with disease you may not get over for months, when you can be cured during the early symptoms by Parker's Ginger Tonic. We have known the sickliest families made the healthiest by a timely use of this pure medicine.
—Observer.

DESERVING ARTICLES ARE ALWAYS APPRECIATED.—The exceptional cleanliness of Parker's Hair Balsam makes it popular. Gray hairs are impossible with its occasional use.

FRANKLIN DAVIS.

EWD. H. BISSELL.

BALTIMORE NURSERIES.

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400 Acres in Nursery Stock. 100 Acres in Orchards. 100 Acres in Small Fruits.

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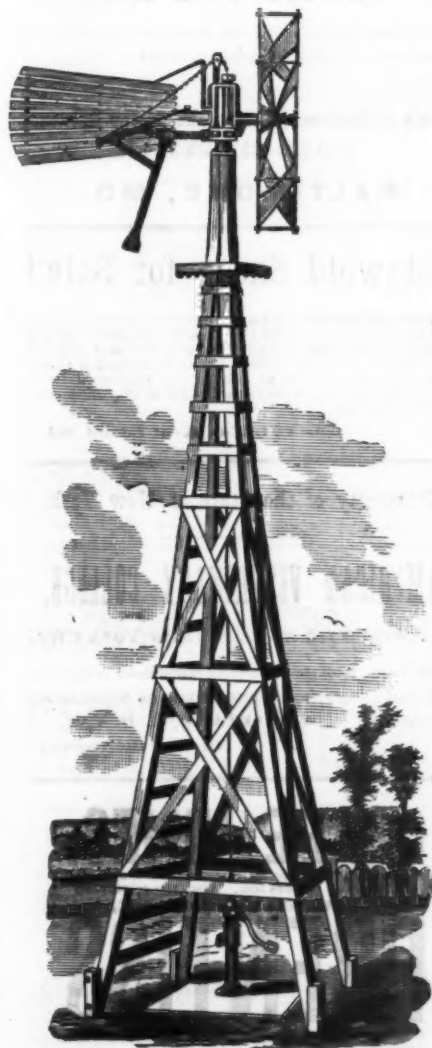
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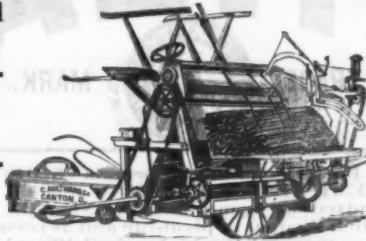
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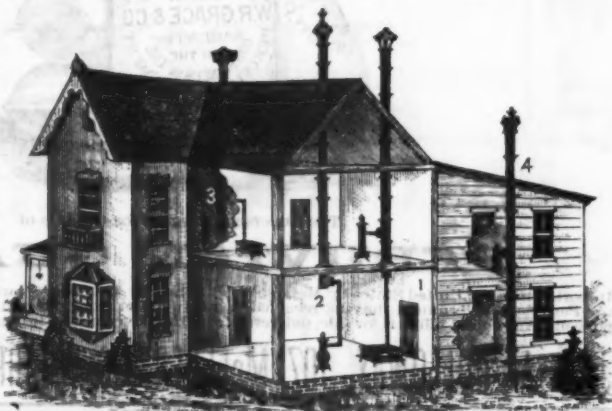
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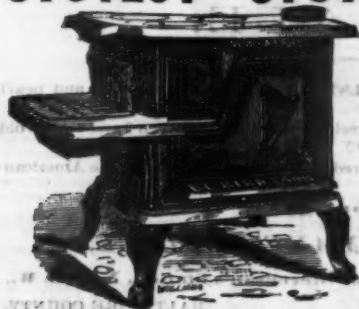
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